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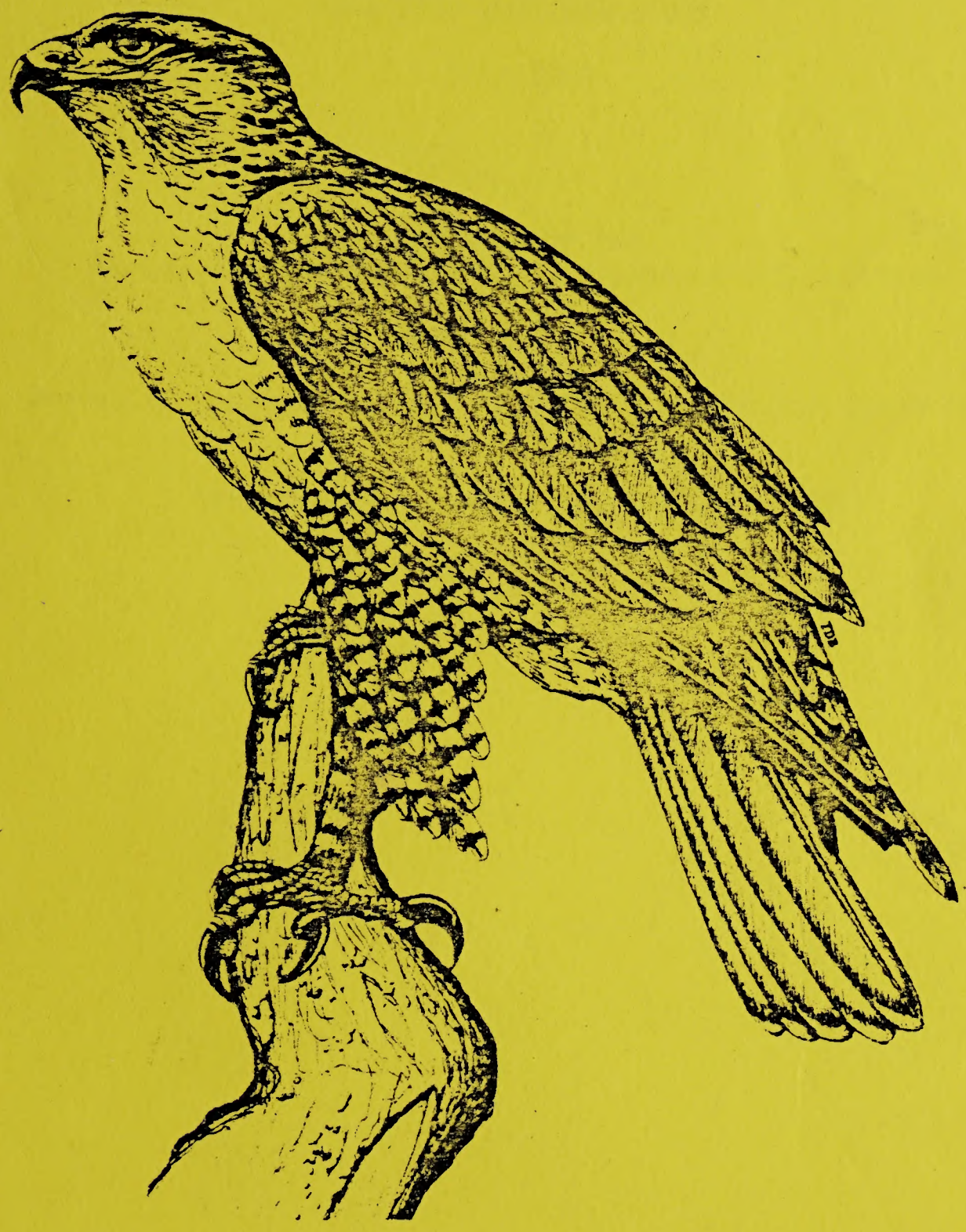

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AQUATRAIN CORRIDOR STUDY

July 1983

Prepared by the
Bureau of Land Management, Division of EIS Services

for the
Bureau of Reclamation, Saline Water Tranport and Use Office

Interagency Agreement No. 3-AA-40-00590

NOTE: The draft Aquatrain Corridor Study Report is to be considered as a working document for your review and comment. Comments must be received no later than August 22, 1983. Submit all comments to:

Project Manager
Aquatrain Project
Bureau of Reclamation (ERC-190)
P.O. Box 25007
Denver, Colorado 80225

DRAFT

AQUATRAIN CORRIDOR STUDY

PREFACE

The draft Aquatrain Corridor Study is divided into three chapters. Chapter 1 provides a general overview and the methodology used for both Phase I and Phase II. Chapter 2 discusses the Phase I results. Corridors eliminated from further consideration that did not meet project needs (i.e., going in the wrong direction, or length of route) and the rationale for eliminating these routes is explained. Corridors inventoried for consideration within the study area (as defined by the Bureau of Reclamation) for each affected state are identified, and the physical and natural resource concerns and land use plans and concerns are described. Chapter 3 analyzes the Phase II results in three subsections: (1) conceptual corridors; (2) site-specific corridors; and (3) two comparative analyses matrix tables. The conceptual corridor subsection analyzes and provides rational for corridors recommended for further consideration for EIS scoping, as well as corridors eliminated from further consideration between 18 input and output points (coal and saline water sources, power plants, and potential export sites). The text for each conceptual corridor being recommended for further consideration for EIS scoping corresponds to a map volume (39, 1:250,000 scale maps) by identifying the appropriate map(s) and corridor segments by a series of points and corridor names. The site-specific corridor subsection, between the Price-San Rafael Coal and Saline Water Source to IPP, analyzes five corridors at a site-specific level utilizing a comparative matrix table of engineering and environmental screening criteria. Lastly, the list of preparers and the consultation and coordination with agencies and personnel complete the draft Aquatrain Corridor Study report.

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SUMMARY

Between the 18 input and output points (coal and saline water sources, power plants, and potential export sites) within the designated study area, there are viable corridor routes. Corridor routes being recommended for further consideration for EIS scoping are delineated on a corresponding map (30 maps at 1:250,000 scale) which accompanies the draft report.

The following summarizes areas along the 1,200 to 1,400 miles of corridor between southwestern Wyoming to the potential export sites in southern California where environmental, political, and/or land use concerns are expected to be intense.

From southwestern Wyoming, through western Colorado, to the Price--Castle area of Utah problem areas would include corridor routes through the Glenwood and De Beque Canyons, the orchard area of Clifton-Palisade, Colorado, and Grand Junction, Colorado. In central Utah, between the Price--Castle area to IPP, soil stability and local public concerns would be significant. Five corridor routes have been analyzed at a site-specific level utilizing a comparative matrix table of engineering and environmental screening criteria through this area. In southern Nevada, the crossing of the Las Vegas-Henderson area would involve local, political concerns about environmental impacts and land use restrictions. Six routes through the Las Vegas-Henderson area have been conceptually analyzed. Corridor routes entering southern California would be within the California Desert Conservation Area (CDCA) and be confined to designated energy and utility corridors. In east-central California, political and land use concerns for the Aquatrain pipeline crossing the Owens Valley would be expected to be high due to watershed management, wildlife and land use considerations. Corridor routes to each of the four export sites along coastal California are also anticipated to be high based upon environmental (i.e., air quality), political, and land use concerns.

CHAPTER 1
GENERAL OVERVIEW AND METHODOLOGY
PHASES I AND II

Chapter 1
General Overview and Methodology
Phases I and II

1.1 GENERAL OVERVIEW

1.1.1 General Description and Location

The Aquatrain Project is designed to transport saline water and coal in a liquid CO_2 medium via separate pipelines to several power plant and port facilities. This project is a joint venture of the Bureau of Reclamation and WR Grace Company. The project is conceptual and being developed in response to actual market needs. In general, saline water from Big Sandy irrigation area, Dotsero Springs, and Price-San Rafael irrigation area will be transported out of the Colorado River drainage system. Coal from sources in Colorado, Utah, and Wyoming will be transported to existing and proposed power plant sites. This study addresses corridors to five existing and proposed power plant sites: IPP, White Pine, Harry Allen, Ivanpah, and Blythe. In addition, corridors to five potential export sites are addressed: Port of Oxnard, Port of Long Beach, Port of Los Angeles, Gaviota, Californis, and the Gulf of California (USA/Mexico border).

Test pipelines would be built from Price to Hunter, Utah. State One of the Aquatrain Project would be constructed in Utah from the Price-Castle Dale area to the IPP power plant site.

1.1.2 Purpose

The purpose of this Corridor Study is three fold: (1) to identify all potential corridors for the Aquatrain Project; (2) to evaluate five corridors for State One of the project that meet environmental, cultural, social, economic, engineering and legal screening criteria; and (3) to recommend a set of corridors between various input and output points (coal and saline water sources, power plants, and export sites) for future stages of the Aquatrain Project.

The study consisted of two phases: corridor identification and corridor evaluation. Under Phase I, data was collected from published literature and federal offices regarding existing and potential corridors in the pertinent sections of Wyoming, Colorado, Utah, Arizona, Nevada, and California. (See Appendix 1: Consultation and Coordination). Formally designated corridors, existing rights-of-way, and potential corridors were identified. Under Phase II, screening criteria were developed with the Bureau of Reclamation. These criteria were then applied to the five Phase I corridors between Price-Castle Dale and the IPP power plant site. The results of the study are presented in this document and are displayed on 1:250,000 maps. Additionally, Phase II recommends a set of corridors between input and output points as part of the conceptual future stage of the project. These corridors are also displayed on 1:250,000 maps.

1.1.3 Relationship of Corridor Study to Subsequent Studies

This Corridor Study is a preliminary step in NEPA compliance for the Aquatrain project. The Bureau of Reclamation will use the data presented in this Corridor Study to supplement other project information and prepare a Plan Formulation Working Document (PFWD). The PFWD will direct the Bureau of Land Management (BLM) in preparing an Environmental Impact Statement. In addition, results of this study will be used by Bureau of Reclamation and WR Grace Company to submit a formal application to the Department of Interior for withdrawal reservations on federal lands.

1.2 METHODOLOGY

1.2.1 Phase I

The objective of Task I of the Phase I Aquatrain Corridor Study was to compile data from existing land use plans, environmental impact statements (EISs), environmental assessments (EAs), corridor studies, and other studies that would identify formally designated corridors, existing rights-of-way, and potential new rights-of-way and corridors. Sources of data and collection procedures included the following:

- Reviewing and evaluating all applicable environmental documents, corridor studies, and land use plans presently available in the BLM, Division of EIS Services and Denver Service Center libraries that analyze linear corridors or rights-of-way within the general geographic area of the Aquatrain Corridor Study.

- Conducting a literature search for other environmental documents, corridor studies, and land use plans that analyze linear corridors or rights-of-way located within the geographic area of the corridor study by using the Denver Service Center computer services.

Corridor identification and map development required the following steps:

- Reviewing data acquired in Task 1 in order to determine the locations of designated corridors and rights-of-way within each designated state. Potential new corridor routes also were identified to link designated corridors and rights-of-way, and to avoid problem areas or determine routes which would minimize public controversy.

- Recording information on U.S. Geological Survey (USGS) 1:500,000 scale state land status work maps for each affected state. Designated corridors, rights-of-way, and potential new routes were depicted on the USGS state land status maps.

1.2.2 Phase II

Corridors at a conceptual level between input and output points (i.e., Jim Bridger power plant to the Axial Basin coal source; the White Pine proposed power plant to the Port of Long Beach) were identified and recommended for further consideration for EIS scoping. Rationale recommending this corridors is provided in the text as are their locations on 1:250,000 scale maps.

Corridors at a site-specific level in the Price-Castle Dale area of Utah to the IPP plant were evaluated by applying the screening criteria to each route, graphically displayed on USGS State maps, scale 1:500,000 and on USGS Quadrangle maps, scale 1:250,000. Evaluations were based on available inventory data, results of aerial reconnaissance, experiences with other projects within the study area and interviews with specialists located within the study area.

Interpretation and identification of potential environmental problem areas based on the screening criteria factors and related parameters were made and identified on maps, described in the physical or natural concern portion of each corridor description, and displayed in an accompanying matrix.

The product of this evaluation identifies the available and most desirable corridor areas within the designated study area.

CHAPTER 2

PHASE I RESULTS

Chapter 2
Phase I Results

The overall objective of Phase I of this Corridor Study is to identify potential corridors within the designated study area for the Aquatrain project. The study area, as determined by the Bureau of Reclamation, includes southwest Wyoming, western Colorado, Utah, northwestern Arizona, Nevada, and southern California, including the Owens Valley area.

Corridors were identified within each of the six affected states.

The Phase I corridor identification was divided into the following subsections:

1. Location--includes where the corridors would be located within the affected state.

2. Description--includes the identification of any environmental assessment (i.e., EISs, Management Plans, etc.) which has been done on the corridors. Each corridor was classified as Category 1, 2, or 3, based on the following definitions:

   Category 1--includes EIS assessed corridors and rights-of-way. Also included are those formally designated corridors that have gone through the land use planning process.

   Category 2--includes planned or potential corridors that have not had any previous environmental assessment work.

   Category 3--includes routes following pre-NEPA rights-of-way (i.e., pipelines, power transmission lines, roads, etc.) that have not had any previous environmental assessment work.

3. Physical Resources--includes key topographic and geologic features that would be affected by the corridors. Only those physical resources that would be affected by implementation of the Aquatrain project are identified for each corridor.

4. Natural Resources--includes key natural resources that would be affected and publicly perceived natural resource concerns. Only those natural resources and perceived concerns that would be affected are identified for each corridor.

5. Land Use Plans and Concerns--includes key land use plans and public concerns that would be affected for each corridor.

Following the completion of the Aquatrain Pipeline Project EIS and selection of the preferred route, a cultural resource survey would be required, prior to construction.

Further information on occurrence of endangered plant or animal species along the corridors will have to await final determination of corridors to be studied in the EIS, involving Section 7 consultation as per the Endangered Species Act of 1973, as amended.

Mitigation measures for each corridor route will be developed in the EIS, in order to minimize or eliminate adverse impacts.

Also contained within Phase I is the identification of those corridor segments which did not meet project needs and, therefore, were eliminated from further consideration and detailed analysis in Phase II of this Corridor Study.

2.1 CORRIDORS ELIMINATED FROM DETAILED ANALYSIS

A meeting was held between the Division of EIS Services' Aquatrain Corridor Study Task Force Team and the Bureau of Reclamation (BuRec).

The general purpose of the meeting was to review the corridor routes identified in the Phase I study, and eliminate certain corridor routes from Phase II screening based on not meeting project needs. The following identifies the corridor routes that were eliminated and reasons for their elimination by State.

WYOMING

Corridor	Reason for Elimination
Chevron Phosphate Project - proposed action	Does not meet project needs to provide a direct route between the Jim Bridger power plant to the Axial Basin coal source.
Chevron Phosphate Project - Mapco alternative	Same as the Chevron Phosphate Project - proposed action.
Highway 789 between Interstate Highway 80 and the Dad cutoff	A good north-south alternative exists (Dad cutoff from I-80). Also, this corridor route would add unnecessary mileage for pipeline construction.

COLORADO

Juniper Hot Springs Corridor	Crosses the proposed Juniper Dam and Reservoir.
Plateau Creek Corridor	Narrow, steep canyon. Also, there are three other west-east alternative corridor routes: I-70, De Beque-Ruby, and Mesa-Grand Junction.
Rapid Creek Corridor	Same as Plateau Creek. Also, this corridor route would traverse the Rapid Creek watershed which furnishes much of the water needs for the town of Palisade, Colorado.

UTAH

Hunter power plant water collection pipeline from Mounds to the San Rafael River	Does not serve the project needs. This is more of a site-specific route for the Hunter power plant.
IPP proposed transmission line from east of Emery to south of Latimer	Does not meet the project needs for a north-south corridor route.
IPP Railroad Line Corridor	Does not meet the project needs.

UTAH (Cont'd.)

Corridor	Reason for Elimination
Allen-Warner Valley coal slurry and transmission line routes	Extreme environmental problems due to terrain constraints and mountain peaks. Also, IPP and the Rocky Mountain Pipeline corridor routes to the north provide two other viable alternative corridor routes.
Rocky Mountain Pipeline - Provo Canyon Alternative	Based on public input acquired during the public hearing in Provo, as well as extreme environmental concerns (tight canyon, river, etc.), this alternative corridor has been eliminated.
Rocky Mountain Pipeline - Thistle Creek Variation	Due to the soil slumpage problems, current mud slide and reservoir, and several other viable north-south corridor routes, this variation has been eliminated.
Mountain Fuels gas pipeline from Birds Eye to the Uinta National Forest	Corridor route going in the wrong direction (west-east) to meet project needs.
Thistle to Springerville Corridor	Same as the Mountain fuels gas pipeline.
New Interstate 70 corridor through Clear Creek Canyon crossing the Fishlake National Forest	Corridor route going in the wrong direction (west-east) to meet project needs. Also, there are several other viable corridor route alternatives.
NEVADA	
Rocky Mountain Pipeline - Central Nevada Alternative (east Ely to west of Currant)	Due to the tightness and (space limitations) and narrowness of Murry's and Currant canyons. Also, BLM and FS planned corridor routes would avoid Murray and Currant Canyons along Highway 50.

NEVADA (Cont'd.)

Corridor	Reason for Elimination
Sierra Pacific 230-kV and 69-kV power transmission line corridor; IPP's proposed corridor route crossing the Humboldt National Forest (Ely Ranger District) east of Ely	Terrain constraints make this corridor not feasible for a pipeline. Also, Highway 50 (Connors Pass) and BLM planned corridors provide viable alternative corridor routes.
Rocky Mountain Pipeline - Central Nevada Alternative (crossing the Toyiabe National Forest east of Tonopah)	Private land constraints along Highway 50. Also, the FS has suggested a viable alternative to the south of Highway 50 avoiding the private land.
South of Cathedral State Park Highway 25 and the Union Pacific railroad right-of-way	IPP and the Rocky Mountain Pipeline - proposed action routes provide viable alternatives. Both Highway 25 and the Union Pacific railroad right-of-way do not contribute towards the project needs.
Highway 25 from Highway 50 to Caliente	Economics (due to route length) and not meeting project needs to link power plants, or port facilities.
Highway 95 from Highway 50 to west Las Vegas	Same as Highway 25.
IPP corridor from the main substation to Moapa	Crosses the Meadow Valley Range WSA, and the Morman Mountain WSA. Tight restricting canyons and mountain peaks along the corridor route. Also, various other north-south routes (i.e., Highways 38 and 93; and several BLM-maintained roads) provide viable alternatives.
Interstate Highway 15 from the intersection with the Allen-Warner Valley Corridor to Mesquite	Environmental sensitivity and public concern over additional utilities through the Virgin River Canyon. Also, the Rocky Mountain Pipeline - proposed action, and Allen-Warner Valley corridors provide viable alternatives.

CALIFORNIA

Corridor	Reason for Elimination
Corridor M	Elimination of the Port of San Diego as a coal export port facility.
Corridor N, L, and CC	Same as Corridor M.
Contingent Corridor T and Z	Same as Corridor M.
Western Regional Corridor Study from San Diego to Corridor N	Same as Corridor M.
Interstate Highway 8 corridor	Same as Corridor M.
Allen-Warner Valley corridor along Interstate 40 to Piute Valley	Outside a designated energy and utility corridor of the California Desert Conservation Area. Also, Corridor G and H would meet project needs.
Contingent Corridor R	Outside a designated energy and utility corridor of the California Desert Conservation Area. Also, does not meet project needs, whereas Corridor G would provide a viable corridor route.
Contingent Corridor W	Outside a designated energy and utility corridor of the California Desert Conservation Area. Also, Corridor BB and D would meet project needs by providing viable corridor routes.
IPP and Allen-Warner Valley corridors south of Ivanpah Valley to Rector, California	Same as Contingent Corridor W.

2.2 CORRIDORS ANALYZED FOR CONSIDERATION

2.2.1 Wyoming Corridors

General Description

Six corridors were examined in Wyoming. Four of these corridors followed a north-south trend from the Jim Bridger power plant near Rock Springs, Wyoming, to the coal source in the Axial Basin of Colorado. These four corridors all follow rights-of-way.

One corridor was examined that trended west to east to take saline water from the Big Sandy area to the Jim Bridger power plant. This route did not follow any existing rights-of-way. Another corridor was examined that trended northwest to southeast following a natural gas pipeline right-of-way. This corridor would allow the transport of CO_2 gas to the Axial Basin coal source in Colorado.

Many of the natural and physical characteristics of the Wyoming corridors are the same. These are summarized in the following discussions.

Physical Resources. The topography along the proposed routes is generally rolling prairie with very little altitudinal variation, except in the vicinity of Point of Rocks (elevation approximately 6,700 feet). Virtually all the proposed routes would encounter bedrock during trenching. Because of the general lack of moisture and vegetation, the bedrock has decomposed slowly, so that significant depths of overburden are found only in stream channels. Most of the bedrock that would be crossed in this area is comparatively soft, so blasting would generally not be required. All of the proposed routes would be located in a seismic zone 1 area.

Natural Resources. Species of wildlife found in the general area traversed by the proposed routes include those common to western sagebrush and shrub habitat. While most of the routes have not been surveyed for raptors, at least one federally listed endangered species--the black-footed ferret--may be encountered along the proposed routes in conjunction with white tail prairie dog towns. Further information on occurrence of endangered plants or animals along the routes will have to await final determination of routes to be studied in the EIS and then compliance with Section 7 of the Endangered Species Act of 1973, as amended.

Most of the soils in the southwestern Wyoming desert are dry soils, known as Torriorthents, which occur primarily on the low hills ridges and basins of the area crossed by the proposed routes. Many of these soils are eroding so rapidly that any soils that may have developed in the past have been completely removed, leaving an undeveloped soil void of diagnostic horizons. Over half of the Torriorthents in this area have bedrock within 60 inches of the surface.

Wind and water erosion are important factors in managing Torriorthents. Their susceptibility to water erosion is high, because of the low density of vegetative cover. In addition, because the soils are dry for long periods, the soils blows easily, especially when unvegetated. Precipitation ranges from 7 to 14 inches annually occurring primarily in the spring, thus leaving the soil dry for more than half of the 60- to 120-day growing season. These soils typically lack nitrogen, an important nutrient, and because of the low precipitation, deposits of alkali and salt accumulate, creating poor chemical conditions for plant growth which consists primarily of sagebrush steppe vegetation. Deep streambed scouring in intermittant streams is common in the Wyoming desert, because of the high sand and silt content of many of the soils and rapid runoff within the watersheds.

The life of the Indians of western Wyoming is evident throughout this study area. Their seasonal camps are frequently found in the passes and by the playas, streams, springs, and dunes of the basins. Major village sites are rare, because the hunting and gathering lifestyle produced small roving bands of people who left small, widely scattered concentrations of material. Pony express and stage trails occur in the area, along with the Oregon, South Pass, and Overland trails. Cultural surveys would have to be completed prior to construction of any pipelines.

Visual resources and land use plans and concerns would not be adversely affected by implementation of any pipelines in this area.

Following are the descriptions of the various routes inventoried for the Wyoming portion of the Corridor Study.

Interstate 80--Dad Cutoff Corridor

Location. This route would leave the Jim Bridger power plant, travel south to Interstate 80 near Point of Rocks, where it would turn east and generally follow the Trailblazer pipeline route to Wamsutter, Wyoming. At this point, the route would turn south and follow along the Dad Cutoff route to its intersection with Wyoming State Highway 789, then continue south along State Highway 789 to the Wyoming-Colorado state line.

Description. The portion of this route that would follow the Trailblazer pipeline has been environmentally assessed in the September 1980 Trailblazer Pipeline System environmental impact statement (EIS). Between about milepost 235 and milepost 186 on the Colorado Interstate gas pipeline segment, this portion of the route would be classified as Category 1. The Dad Cutoff and State Highway 789 portions of this route have been partially addressed in the 1977 Overland Resource Area Management Framework Plan (Rawlins District, BLM, Rawlins, Wyoming). While this corridor is designated in the Resource Management Plan for the Overland Resource Area, none of the route has been cleared, classifying this portion of the route as Category 2.

Big Bend Saline Water Corridor

Location. This route would start in the Big Bend area of the Big Sandy River and traverse across country in a southwesterly direction to the Jim Bridger power plant.

Description. None of this proposed route has been environmentally assessed in any document and it does not follow any designated or planned corridor. Therefore, this route is classified as Category 2, for purposes of this Corridor Study.

Snell Creek Corridor

Location. This route would leave the Jim Bridger power plant and travel south to join the Trailblazer Pipeline System near Point of Rocks, Wyoming. It then would go east along the Trailblazer right-of-way to the county road that goes under Interstate Highway 80 to Bitter Creek. The route would continue south along this road to the Wyoming-Colorado state line.

Description. The only environmental assessment completed along this route is on the Trailblazer portion of the route. This assessment is reported in the 1980 Trailblazer Pipeline System EIS. No other assessments are available for portions of this route. Therefore, the route is classified as Category 1 for the first 11 miles and Category 3 for the remainder of the route.

Hallville-Black Buttes-Kinney Rim Corridor

Location. The route would leave the Jim Bridger power plant and travel south, crossing Interstate Highway 80 near Point of Rocks, Wyoming, cross under the Interstate where it joins an unnumbered county road paralleling Bitter Creek, and continue south through Hallville and Black Buttes. Just south of Black Buttes, the road turns southwest and continues southwest and south to Alkali Wash where the road forks. This route would take the eastern trending road and then turn south along Kinney Rim, following the road off the Rim and along Alkali Creek to the Wyoming-Colorado state line.

Description. There are no designated corridors along this route and no environmental assessments have been made; therefore, the route is classified as Category 3.

Black Buttes-Alkali Wash-430 Corridor

Location. This route would leave the Jim Bridger power plant and travel south through Hallville, Black Buttes, and Kinney Rim to the road junction at Alkali Wash. At this junction, the route would turn southwest to its junction with Wyoming State Highway 430. The route would then continue south along Wyoming State Highway 430 to the Wyoming-Colorado state line.

Description. The Rock Springs District of the BLM has designated this highway as a utility corridor, but no environmental assessments have been made; therefore, it is classified as Category 2. No assessments have been made along the various county roads utilized by this route. The route, excluding the Highway 430 portion, would be classified as Category 3.

East Dry Basin CO_2 Corridor

Location. This route would start at the CO_2 pipeline tie-in point located southwest of Rock Springs, Wyoming, on the American Quasar and Exxon CO_2 pipelines located southwest of Rock Springs, Wyoming. (This tie-in point is further described in the draft Riley Ridge Natural Gas Project EIS published by BLM, in May 1983.) From this tie-in, the route would generally follow south and east along the Mountain Fuel Supply natural gas pipeline right-of-way to its intersection with Wyoming State Highway 430, near Vermillion Creek. At this point, the pipeline could:

(1) Follow the proposed Black Buttes-Alkali Wash-430 Corridor, discussed as Wyoming Route Number 1.

(2) Continue along the Mountain Fuel Supply right-of-way to its intersection with the Hallville-Black Buttes-Kinney Rim Corridor, discussed as Wyoming Route Number 2.

(3) Continue along the Mountain Fuel Supply right-of-way into Colorado to Powder Wash, where it would follow Colorado Corridor B to Axial, Colorado.

Description. The portion of this route following the Mountain Fuels Natural Gas Pipeline right-of-way is classified as Category 3, while the remainder of this proposal is Category 2.

2.2.2 Colorado Corridors

General Description

Two sets of corridors were examined in Colorado: one set of corridors followed a north-south trend from the Axial Basin coal source to the Rifle Load-Out Facility; the second set traversed Colorado in an east-west direction from the Dotsero Springs saline water source near Gypsum, Colorado, west through Rifle and on to where Interstate Highway 70 enters Utah from Colorado.

Basically, no previous EIS assessments have been done on the north-south routes, but very good EIS documentation is available on the east-west corridors, especially along the Interstate Highway 70 corridor.

At least one federally listed endangered species--the black-footed ferret--may be encountered along the proposed routes in conjunction with white tail prairie dog towns. Further information on occurrences of threatened and endangered plants or animals along the routes will have to await final determination of routes to be studied in the EIS and then compliance with Section 7 of the Endangered Species Act of 1973, as amended.

All areas would have to be surveyed for cultural resources before construction of any corridors.

Following are the descriptions of the various routes inventoried for the Colorado portion of the Corridor Study.

Irish Canyon Corridor

Location. This route would begin at the Colorado-Wyoming state line and follow Moffat County Highway 139 through Irish Canyon to its intersection with Colorado State Highway 318. It then would follow Highway 318 to its intersection with U.S. Highway 40, where it would turn east and parallel Highway 40 to just east of Maybell. From here, it would turn south and follow an unnumbered Moffat County road. From this intersection, the route would turn southeast and follow another unnumbered Moffat County road to Axial, Colorado.

Description. This entire route would follow existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through the land use planning process. This route, therefore, is considered as Category 3, for purposes of this Corridor Study.

Physical Resources. The topography along this proposed route varies from flat valley floors to very narrow, rocky canyons to rolling, sagebrush covered hills. Irish Canyon itself is a very narrow, rocky, steepsided canyon about 3.5 miles long. This canyon was assessed in the Chevron Phosphate Project draft EIS and eliminated from further analysis because of a number of environmental, engineering, and economical constraints.

Once the route leaves the canyon, it would follow State Highway 318 through dry, sandy areas, low hills covered with sparse pinyon-juniper, and low rolling sagebrush covered hills to the Yampa River near Maybell. From Maybell south to Axial, the route would go through broad valleys of limited agricultural lands, and low rolling sagebrush/mountain browse covered hills on the north side of the Danforth Hills area.

All of this proposed route would go through a seismic risk zone 1 area.

Natural Resources

Soils. In general, the soils are cool, deep, well drained, loamy-skeletal soils containing varying amounts of rock fragments (35 to 60 percent), varying in size from gravel to stone. These soils are located on narrow, elongated floodplains, with slopes of 3 to 10 percent. These soils are adjoined by steep to very steep side slopes subject to rock falls.

Soils from Maybell to Axial are warm to cool, deep, well drained soils, nearly level to moderately steep soils on mesas, terraces and uplands.

Vegetation. Approximately the first 12 miles of this route south of the state line would traverse sagebrush/grass range. Vegetative species found in the Irish Canyon portion of the route are typical of the pinyon-juniper type.

From the southern end of Irish Canyon to Maybell, the route would go through an area of dry, sandy, rolling sagebrush covered hills. From Maybell to Axial, the route would traverse through broad valleys of low, rolling sagebrush hills covered with sagebrush/mountain browse.

Visual Resources. With the exception of Irish Canyon, most of this route would traverse dry, rolling landscapes, dominated with sagebrush. Few tourists visit this area for its scenic qualities.

Cultural Resources. Irish Canyon contains several known archaeological sites, including rock art, rock shelters and evidences of early cultures.

Although no intensive inventories have been made in this area, it is likely that numerous potentially sensitive cultural resource values are present. There is also a strong possibility of finding evidence of Paleo-Indian occupation.

The rest of the route would traverse areas that have been occupied for the past 10,000 years, and evidence of this occupation is scattered throughout the area.

Agriculture/Grazing. Most of the lands crossed by this proposed route are utilized for domestic livestock grazing. There is one area south of Maybell, Colorado, that is used for agriculture, mostly non-irrigated wheat.

Land Use Plans and Concerns. There are no up-to-date BLM Management Framework Plans affecting the area that would be crossed by this proposed route. A new Habitat Management Plan is scheduled to be written in the near future, but it is not available for use at this time. There are no known constraints along any portion of this route with the exception of the Irish Canyon area which should probably be avoided if at all possible because of local political and environmental concerns.

Powder Wash-Little Snake Corridor

Location. This route would begin at the Colorado-Wyoming state line and follow Moffat County Highway 13 through Powder Wash to the Little Snake River road (Moffat County Road 27). At this point, the route would turn southwest on Moffat County Road 27 and continue along this road right-of-way to its intersection with Colorado State Highway 318. The proposed route would then cross State Highway 318 and continue southwest along the Little Snake River to its confluence with the Yampa River. At this point, the proposed route would cross the Yampa River and follow Moffat County Road 26 to its intersection with Moffat County Road 57 (Price Creek/Strawberry Road) and then continue along Rio Blanco County Road 12 to its intersection with State Highway 64, west of Meeker, Colorado. As part of this route, a railroad spur, upgraded haul road, or conveyor would have to be constructed from the coal mine site near Axial, Colorado, along an unnumbered Moffat County road to another unnumbered Moffat County road, then turn south along a third unnumbered Moffat County road to its intersection with the proposed pipeline where a load-out facility would be constructed.

Description. This entire route would follow existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through the land use planning process. This route, therefore, is classified as Category 3, for purposes of this Corridor Study.

Physical Resources. The topography along the upper portions of this route from the Colorado-Wyoming state line to near Cross Mountain is mostly low, rolling, sagebrush covered hills and sandy soils. Near Cross Mountain, the route would drop into a steep, rocky narrow canyon for a distance of about 6 miles where it would cross the Yampa River and traverse more rolling sagebrush covered hills to near Price Creek where some agricultural lands are encountered. These croplands are intersperced with brush-covered hills all the way down Strawberry Creek to just west of Meeker, Colorado.

The portion of this route from the mine site near Axial, Colorado, west to Moffat County Road 57, would traverse a narrow valley through low, rolling sagebrush/mountain browse covered hills.

Natural Resources

Soils. Soils encountered by this proposed route are mostly cool, deep, well-drained, level to sloping, to steep soils on mesas, fans, floodplains and uplands. There are no apparent soil slumping problems along any portion of this route; however, there is a short area of rocky soils along the west side of Cross Mountain.

Vegetation. Vegetative types and typical species found are the same as those encountered on the Irish Canyon route.

Visual Resources. The only part of this corridor that would cause visual concerns is the Cross Mountain Wilderness Study Area (WSA). This WSA encompasses an oblong, flat-topped mesa rising nearly 2,000 feet above the Yampa River. The river has cut a deep gorge which is a focal point in the area. Erosion has worked on the mountain's east and west sides exposing colorful, rocky rims. The northeast side of the mountain consists of an abrupt, exposed face. Patches of aspen and mountain browse are scattered around the area, especially on the eastern face. The rest of the area is dominated by pinyon-juniper vegetation.

Due to the varied and rugged topography, numerous vantage points, varied vegetation, and location, the Cross Mountain unit offers outstanding opportunities for solitude.

Cultural Resources. Most of the proposed route has not been surveyed for cultural resources. However, several archaeological sites have been identified, including many chips and other artifacts, which indicate that the Cross Mountain area was once inhabited by the Fremont Indian culture. Several caves have also been identified, but more research is needed.

Agriculture/Grazing. Virtually all of the route passes through lands that are used primarily for domestic livestock grazing.

Land Use Plans and Concerns. The only apparent concern to constructing this particular pipeline route is the Cross Mountain WSA and its legal constraints as far as how this pipeline would affect wilderness characteristics if the pipeline were constructed.

Powder Wash "A" Corridor

Location. This route would start at the Colorado-Wyoming state line and follow an unnumbered Moffat County road south to the town of Powder Wash, where it would join the Powder Wash-Little Snake Corridor previously discussed. This route would be an extension of the Snell Creek Corridor in Wyoming.

Description. All of this route is classified as Category 3.

Physical Resources. The topography along this short route is sandy soils covering rolling sagebrush hills. This route would be located in a seismic risk zone 1 area.

Natural Resources. Since this route would be short, all natural resources, and land use plans and concerns would be the same as those discussed for the Powder Wash-Little Snake Corridor.

Bald Mountain Cutoff Corridor

Location. This proposed route would start at the intersection of Moffat County Road 27 and follow southeast along Moffat County Road 28 to the town of Maybell, Colorado, where it would join the proposed Irish Canyon Corridor discussed previously.

Description. This entire route would follow existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through the land use planning process. This route, therefore, is classified as Category 3, for purposes of this Corridor Study.

Physical Resources. The topography along this proposed route is generally flat to rolling hills with some higher mesa-type hill formations. All of this proposed route would be located in a seismic risk zone 1 area.

Natural Resources

Soils. Major soil problems could be encountered along the Spring Creek drainage system. The soils in this area are a silty type that contain large amounts of salt. This combination causes "piping" (sub-surface erosion) and would cause extreme maintenance problems for any pipeline traversing the Spring Creek drainage. This soil problem in the Spring Creek drainage is addressed in the LaSal Pipeline Company Shale Oil Pipeline Draft EIS, 1981.

Vegetation. The primary species of plants found along this route are the same as those mentioned for the Powder Wash--Little Snake Corridor.

Cultural Resources. A search of the literature covering cultural information in northwestern Colorado indicates that the area has been occupied for at least the past 10,000 years and there are a variety of prehistoric sites, primarily representing Archaic and Late Prehistoric Indian cultures.

Agriculture/Grazing. This route would traverse lands that are almost exclusively used for domestic livestock grazing, primarily cattle and sheep. The area is also good wildlife habitat.

Highway 789 Corridor

Location. This proposed route would start at the Colorado-Wyoming state line and parallel Colorado State Highway 789 south to Axial, Colorado.

Physical Resources. The topography along this route from the Colorado-Wyoming state line to a point about 6 miles south of Craig, Colorado, is one of rolling hills and sagebrush range converted to agricultural lands. At this point, the route would enter the Williams Fork River Canyon area, a steep, dissected canyon which for a distance of about 4 miles is very narrow with the highway and the river taking up virtually the entire width of the canyon.

The canyon walls in this area are nearly vertical solid rock along the east side of the canyon. At Hamilton, Colorado, the route would leave the Williams Fork River canyon and climb a 6 or 7 percent grade to the base of nearly vertical rock cliffs. Once the road reaches the top, about 2 miles south of Hamilton, it generally follows a level valley floor to Axial, Colorado.

All of this proposed route would be located in a seismic risk zone 1.

Natural Resources

Vegetation. The only apparent concern along this route is the Williams Fork River canyon area where riparian vegetation would be destroyed by the construction of the pipeline route through the canyon.

Agriculture/Grazing. Lands traversed by this route are used primarily for domestic livestock grazing or dryland wheat production.

Yellow Jacket-Highway 789 Corridor

Location. This proposed route would start at Axial, Colorado, cross State Highway 789 and traverse in a southeasterly direction until it intersects an unnumbered Moffat County road (Yellow Jacket Pass road). From this point, the route would parallel Rio Blanco County Road 10 to its intersection with Highway 789, about 3 miles north of Meeker, Colorado.

Description. This entire route would follow existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through the land use planning process. This route, therefore, is classified as Category 3, for purposes of this Corridor Study.

Physical Resources. The topography along this proposed route is generally low, rolling hills along the first 8 miles of the route. Beyond that, the route would enter somewhat steeper areas.

All of this route would go through a seismic risk zone 1 area.

Natural Resources

Wildlife. Big game animals utilize most of the area for winter range and the area is heavily utilized by hunters in the fall.

Vegetation. Vegetation found on or along this route would include species common to the Northern Desert Shrub and Transition Zones. These vegetative types in this area are utilized mostly for wildlife habitat and domestic livestock grazing.

Cultural Resources. There are a variety of prehistoric sites, primarily representing Archaic and Late Prehistoric Indian cultures. In addition, there is at least one site, the Thornberg Battle Site about 20 miles northeast of Meeker, currently listed on the National Register of Historic Places.

Agriculture/Grazing. In general, most of this route would be located in areas utilized almost entirely for domestic livestock grazing during the spring to fall period. Some areas of agriculture area also encountered include winter wheat, alfalfa, some small grain, and irrigated pastures.

Nine-Mile Corridor

Location. This proposed route would follow State Highway 789 from Axial, Colorado, to Meeker, Colorado.

Description. This entire route would follow existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through the land use planning process. This route, therefore, is classified as Category 3, for purposes of this Corridor Study.

Physical Resources. This proposed route would lie entirely along the bottom of a very narrow canyon formed by Good Spring Creek with virtually all of the area that is not taken up by the highway; a very wet boggy riparian area. Much of the area has free-running surface water the year-round. In addition, there are several areas along the west side of the canyon that have severe slumping problems with hillside soils, particularly along a 2-mile segment of the route near the top of Nine-Mile Gap.

All of this proposed route would be located in a seismic risk zone 1 area.

Natural Resources

Soils. Soils along this proposed route, south of Axial, Colorado, are cool, deep to moderately deep, well drained, gently sloping to moderately steep soils on uplands and valleys. At about the Moffat-Rio Blanco county line, the soils become almost water logged along Good Spring Creek until the top of Nine-Mile Gap is reached. Soils down Curtis Creek are mostly well drained, gently sloping, and shallow to moderately deep.

Much of the area has free-running surface water the year-round and marshy areas are common. High quality wildlife habitat is found in the riparian zones along this area.

Cultural Resources. Archaeological investigations in the general area of this route have located a variety of prehistoric sites, primarily representing Archaic and Late Prehistoric Indian cultures.

Agriculture/Grazing. The grazing of domestic livestock constitutes the principal land use in this area. Some hay is grown and there are a few irrigated pastures in the area.

Strawberry Creek-789 Corridor

Location. This proposed route would start at the intersection of two unnumbered Moffat County roads. It then would parallel Rio Blanco County Road 12 (Strawberry Creek road) to its intersection with Colorado State Highway 64. The route then would continue south along State Highway 789 to the load-out facility at Rifle, Colorado.

Description. This entire route would follow existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through the land use planning process. This route, therefore, is classified as Category 3, for purposes of this Corridor Study.

Physical Resources. The topography along this proposed route is mostly low, rolling hills. All of this route would be located in a seismic risk zone 1 area.

Natural Resources

Soils. The soils along this proposed routing are principally well drained, moderately sloping to steep loams with large areas of loams with stones, channery, or gravel. Soils on the stream terraces and alluvial fans are generally deep with some clayey and silty textures. Large portions of the route are covered with soil of mountain sides, ridges, mesas and broken land which are deep to shallow, stoney, and moderately steep to very steep. Rock outcrops are common in this area.

Visual Resources. The area between Meeker and Rifle is dominated by the western escarpment of the Grand Hogback. This landscape, although scenic in scale and natural variety, has been visually modified through the development of several overhead transmission lines which reduce the aesthetic quality along State Highway 789.

Cultural Resources. Cultural features along this proposed route are the same as those discussed in the Yellow Jacket-789 Corridor description.

Agriculture/Grazing. The principal land use along this route is domestic livestock grazing with both dryland and irrigated crops also found along the route.

Meeker to Rifle Corridor

Location. This proposed route would start at Meeker, Colorado, and parallel Colorado State Highway 789 to the load-out facility at Rifle, Colorado.

Description. This entire route would follow existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through the land use planning process. This route, therefore, is classified as Category 3, for purposes of this Corridor Study.

Physical Resources. The general topography along this proposed route is rolling hills. The lands east of State Highway 789 are very narrow to the toe of the Grand Hogback slope.

There are four power transmission lines paralleling the highway on the west side from about Fourteen Mile Creek to Rifle, Colorado. All of this proposed route would be located in a seismic risk zone 1 area.

Natural Resources. Basically, all natural resources would be the same as those discussed for the StrawberryCreek-Highway 789 Corridor.

Flag Creek Corridor

Location. This proposed route wouuld start at Meeker, Colorado, and traverse south along the Flag Creek Road (Rio Blanco County Roads 6 and 1) to the Rio Blanco cutoff, where the route would turn west to join Colorado State Highway 789. From Rio Blanco, the route would turn south and parallel Highway 789 to the load-out facility at Rifle, Colorado.

Physical Resources. The short canyon area from the Flag Creek road to Rio Blanco is a narrow, rocky canyon.

All of this route would be located in a seismic risk zone 1 area.

Natural Resources. The eastern side of the Grand Hogback offers a wide variety of topographic, vegetative, and hydrological features that define a highly scenic landscape. All other natural resources found along this route would be the same as those discussed for the Strawberry Creek-Highway 789 Corridor.

Glenwood Canyon Corridor

Location. This proposed route would follow the Interstate Highway 70 corridor from the Dotsero Springs area near the Garfield County-Eagle County line, west to the load-out facility at Rifle, Colorado, a distance of about 41 miles.

Description. The Glenwood Canyon route has been fully assessed in an EIS entitled: Final Environmental Impact Statement, Project I-70-2(11), Dotsero West, prepared by the U.S. Department of Transportation, Federal Highway Administration and the Colorado Division of Highways, July 1972. This route, then, is classified as Category 1.

Physical Resources. This proposed route would go through Glenwood Canyon which is very narrow, with nearly vertical rock walls several hundred feet high. The canyon is crowded with the Colorado River, the Denver and Rio Grande railroad, and U.S. Highway 6 (soon to be Interstate Highway 70) for the entire length of the canyon from about the Garfield County-Eagle County line, west to the vicinity of Canyon Creek.

There are existing portions of Interstate 70 already constructed in both the east and west ends of the canyon. New construction to tie the east and west segments will total about 9.6 miles. Construction of this section is planned for the mid-1980's.

The canyon is composed of pre-Cambrian rocks that are exposed in the lower canyon walls between Grizzly Creek and the Hanging Lake area, with sedimentary rocks forming the high rims eastward from Hanging Lake. The principal formations are Sawatch quartzite, Chaffee, and Manitou limestone and dolomites and Leadville limestone.

Talus slopes develop at the base of the rock walls due to erosion and are common throughout 75 percent of the length of the canyon. The surface of many of these slopes is active, and continuously accumulates material from the rock faces above. An unstable clay layer, with an average thickness of 45 feet, is located in the canyon approximately 10 to 60 feet from the surface. Its extent is undetermined, but is known to exist east of Shoshone Dam and continue through the east end of the canyon. It is composed predominantly of clay with varying percentages of silt and sand and is a source of severe settlement problems.

The entire canyon would be located in a seismic risk zone 1 area.

A very comprehensive environmental assessment of the Glenwood Canyon is available in the Federal Highway Administration Final Environmental Impact Statement (July 1972) and in the Army Corps of Engineers Final Supplemental Environmental Statement, Glenwood Canyon I-70 Project (May 1982).

Natural Resources

Wildlife. Few big game animals are seen in the canyon proper. The eastern and western ends of the canyon provide browsing areas for small numbers of deer and elk during the winter and early spring. Other animals present in the canyon include small mammals, a variety of nongame bird species, and a few reptiles.

Resident cold water fish populations are found in the Colorado River in the canyon; however, the quality of the fishery varies. Areas of good habitat support rainbow and brown trout, mountain whitefish, and a number of nongame species. Mountain whitefish and brown trout spawn in Grizzly Creek in the fall. Rainbow trout also spawn in Grizzly Creek, but in the spring.

Water Resources. The sediment load in the Colorado River through the canyon is highly variable, with peak loads of short duration (about 2 months) occurring in periods of high spring runoff. Salinity pollution is becoming an increasing problem in the upper Colorado River Basin, although the salinity levels in the canyon are not presently at critical levels. Water quality data indicate no serious water quality problems in the river as it flows through the canyon.

Peak flood flows calculated for the Corps of Engineers EIS (1982) under worst-case conditions was 32,500 cfs.

Vegetation. Low moisture levels, steep slopes, and low soil fertility will make successful revegetation of the canyon walls very difficult.

Riparian vegetation adjacent to the river varies widely and is generally not a stable plant community. Revegetation of these areas could take many years.

Visual Resources. The scenic values of Glenwood Canyon are of significant interest both locally and regionally. The natural beauty of the rugged canyon walls, sheer rock cliffs, and diverse vegetation is contrasted with almost continuous modification of the canyon flow caused by human activities (roadway, railroad, dam, and power plant). There are also talus scars, large rock cuts, disturbed vegetation, and barren rock fills in the river.

Cultural Resources. Historic and cultural resources in the canyon were inventoried in 1979 and 1980. Three properties were identified as being eligible for inclusion in the National Register of Historic Places. The three properties are: (1) the Bair Ranch; (2) the Shoshone Power Plant Complex; and (3) the Denver and Rio Grande Railroad from 0.5 mile west of Bair Ranch to a point near the west end of the canyon. The entire canyon has been surveyed for archaeological and paleontological remains and the canyon appears to be devoid of these resources.

Recreation. Recreation in the canyon consists mostly of sightseeing and photography. It is also heavily used for hiking, rock climbing, rafting, kayaking, picnicking, and fishing. Visitor use of the Hanging Lake area exceeds 20,000 persons each summer. Presently, there are over 60 pull-offs located throughout the canyon adjacent to the existing roadway and these are extensively used in the summer months.

Agriculture/Grazing. There are no prime or unique farmlands located within the canyon itself. However, west of Canyon Creek to Rifle along Interstate Highway 70, a distance of about 21 miles, the route would traverse prime farmlands, including several orchards.

Land Use Plans and Concerns. The town of Glenwood Springs, located on both sides of the canyon near the west end, could form a very difficult barrier to put the pipeline through. Local zoning laws, existing land use plans, and existing homes and businesses could all make it very difficult to put a pipeline through this area.

Gypsum-Cottonwood Pass Corridor

Location. This proposed alternative route to the Glenwood Canyon Corridor would follow the existing Interstate Highway 70 corridor east to Gypsum, Colorado, from the Dotsero Springs area. The route would then head southwest along the Cottonwood Pass road (Eagle County Road 10-A over Cottonwood Pass to join Garfield County Road 107), down Cattle Creek to its junction with State Highway 82. It then would cross the Roaring Fork River and go north to the Interstate Highway 70 corridor where it would follow the Glenwood Canyon Corridor west to Rifle, Colorado.

Description. The Gypsum-Cottonwood Pass route has been fully assessed from the town of Gypsum, Colorado, over the pass, down to the Roaring Fork River and north along the river to the existing Interstate Highway 70 corridor. This assessment can be found in an EIS entitled: Final Environmental Impact Statement, Project I-70-2(11), Dotsero West, prepared by the U.S. Department of Transportation, Federal Highway Administration and the Colorado Division of Highways, July 1972. This route is classified as Category 1, because of the EIS assessment.

Physical Resources. The general topography along this route is a generally flat, river floodplain for a distance of about 8 miles to the vicinity of Gypsum, Colorado. The route then would travel southwest through a somewhat narrow valley of agricultural lands, then a steep climb of about 2,400 feet in elevation to the summit of Cottonwood Pass, a distance of about 10 miles. The route then would follow Garfield County Road 113 for about 17 miles with about a 2,400-foot drop in elevation. The entire route is located in a seismic risk zone 1 area.

Much of the Cottonwood Pass road itself parallels or crosses a Rocky Mountain Natural Gas Company gas pipeline.

Natural Resources

Soils. There are some areas of slumpy soils near the summit of Cottonwood Pass, but no major problems are anticipated along this route.

Vegetation. From the eastern end of this route at the Dotero Springs site, vegetation encountered by this route includes riparian river bottom, typical sagebrush/pinyon-juniper is the next type encountered, while near the top of the pass, scattered aspen, mountain browse, and various conifers are found. The vegetative pattern is repeated as the route continues west down Cattle Creek to the Roaring Fork River.

Agriculture/Grazing. This route traverses lands that are almost exclusively used for domestic livestock grazing, primarily cattle and sheep. The area is also excellent wildlife habitat. Limited agricultural lands are found at both the eastern and western ends of the route and these consist primarily of native pastures, irrigated pastures, and some alfalfa hay.

Cottonwood Pass Variation

Location. This proposed route variation would start at the Dotsero Springs area and traverse southeast, roughly along Cottonwood Creek, to its intersection with the Cottonwood Pass road. By utilizing this route variation instead of the Gypsum-Cottonwood Pass Corridor, an estimated 9 miles would be saved.

Description. None of this route has been environmentally assessed; therefore, it is classified as Category 2.

Physical Resources. It appears that it would be possible to route the pipeline up Cottonwood Creek from the Dotsero Springs saline water pick-up area to the Cottonwood Pass road. This route variation would require the saline water pipeline lifting saline water about 2,400 feet in elevation over a distance of about 6 miles. The route would be located in a seismic risk zone 1 area.

Natural Resources. With the exception of soils, all natural resources encountered on this short route variation are the same as those discussed for the Gypsum-Cottonwood Pass Corridor. Soils encountered on this route variation are coal, shallow to deep, well drained, nearly level to moderately steep soils on foothills and fans graduating to sloping to steep soils on benches and mountain slopes. Some of the areas are heavily dissected and surface erosion is so accelerated in some areas that vegetation cannot become established.

Rifle--Interstate Highway 70 Corridor

Location. This route would start at the Rifle, Colorado, load-out facility and follow the Interstate Highway 70 corridor west to the Colorado-Utah state line, a distance of about 83 miles.

Description. From the western end of this route at the Colorado-Utah state line, Interstate Highway 70 is complete eastward to a point 1 mile east of Plateau Creek (about 46 miles). There is also a 4-mile segment of Interstate Highway 70 lying west of Rifle, Colorado, that is completed and is assessed in Interstate Highway 70 planning documents. The entire route is classified as Category 1.

There is a 37-mile segment from 4 miles west of Rifle to 1 mile east of Plateau Creek that has not been completed to interstate highway specifications, but has been assessed in the Final Environmental Impact Statement for Project I-70-1(19) & (36), De Beque--Grand Valley, Mesa and Garfield counties, Colorado, prepared by the U.S. Department of Transportation, Federal Highway Administration and the Colorado Division of Highways, September 1975.

Physical Resources. The general topography along the eastern portion of this route from Rifle, Colorado, to De Beque Canyon (about 34 miles) is a broad, flat alluvial valley along the Colorado River.

De Beque Canyon proper, is a very narrow, rocky canyon with nearly vertical rock walls. Contained within the canyon is the Colorado River, Denver and Rio Grande railroad, and U.S. Highway 6 (soon to be Interstate Highway 70). There is a dam across the river near Cameo, Colorado, and Island Acres State Recreation Area is located just upstream of Cameo. Extensive riparian areas are found the length of the canyon (approximately 12 miles). As the canyon ends near Palisade, an area of intensive agriculture is encountered which continues west to the town of Grand Junction (about 5 miles). The portion of Interstate Highway 70 that goes through Grand Junction is about 8 miles long.

The distance from Grand Junction to the Colorado-Utah state line is about 23 miles, of which approximately 10 miles are through a mixture of urban and agricultural lands.

The area traversed by the Interstate Highway 70 corridor west of Grand Junction to the Colorado-Utah state line is through a broad, flat alluvial valley along the Colorado River.

All of this route would go through a seismic risk zone 1 area.

Natural Resources. The agricultural lands located between Clifton and Fruita support huntable populations of ring-necked pheasants and Gambel's quail.

Visual Resources. Visual contrasts along this route are the most striking features of scenery viewed by tourists traveling on Interstate Highway 70. The sheer Bookcliffs formations lying just north of the proposed route from Rifle, Colorado, to the Colorado-Utah State line are a spectacular formation easily seen from the proposed route. The stark, flat desert type from Interstate Highway 70 to the base of the Bookcliffs forms a highly interesting contrast in viewing.

South of the route from Rifle to De Beque Canyon, the Grand Mesa forms a dark green contrast with the dry desert area.

De Beque Canyon itself is a very narrow, steep sided rocky canyon that is very scenic.

Cultural Resources. There are a variety of prehistoric sites primarily representing Archaic and Late Prehistoric Indian cultures.

Agriculture/Grazing. All of the lands that would be traversed by this proposed route are used for domestic livestock grazing (primarily in the winter) with the exception of the De Beque Canyon area and the intensive agricultural area between Palisade and Mack, Colorado. The area around Palisade and Clifton is used primarily for orchards, while areas west of Grand Junction are used primarily for growing alfalfa, corn, small grains and other irrigated crops.

Rifle--Collbran Corridor

Location. This corridor would be an alternative to the Rifle-Interstate Highway 70 corridor through De Beque Canyon. The Rifle-Collbran Corridor would start at the load-out facility at Rifle, Colorado, and follow south along the Middle Mamm Creek Road to the East Mamm Creek Road (Garfield County Road 330), then up Dry Hollow Creek, cross to the west near the head of Reservoir Gulch and connect with the Peninsula Road to Collbran (Mesa County Road 82). From Collbran, the route would follow State Highway 330 to the junction of State Highway 330 and State Highway 65. The route would then go south along Highway 65 to near the head of Big Beaver Creek and head southwest to Whitewater Creek, down Whitewater Creek to the town of Whitewater, Colorado, and then turn northwest along U.S. Highway 50 to Grand Junction, Colorado, where it would join the Interstate Highway 70 corridor.

Description. This entire route would follow existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through the land use planning process. This route, therefore, is classified as Category 3, for purposes of this Corridor Study.

Physical Resources. This proposed route would follow existing road rights-of-way along broad, agricultural valleys and creek bottoms until steeper, conifer-aspen hills are encountered at the head of Mamm Creek. As the route continues west down the Peninsula Road, it traverses agricultural lands until it nears the town of Mesa. From Mesa to the head of Whitewater Creek the route goes through steeper, conifer-covered, north-facing slopes of Grand Mesa; as the route drops down Whitewater Creek, steeper, dry, eroded slopes and desert-like areas are encountered until the route nears Grand Junction where it would traverse urban areas until joining the Interstate Highway 70 corridor. The route climbs about 1,300 feet from Rifle to the divide between Mamm Creek and Buzzard, drops about 1,300 feet to Mesa, climbs again about 3,200 feet to the head of Whitewater Creek and then drops about 5,000 feet to the Grand Junction area.

Natural Resources

Soils. This proposed route would encounter soils that range from cold to warm, deep to shallow, well-drained, nearly level to steep soils on benches and fans, mesas, terraces, mountain slopes, breaks and canyons. There are some soil slide areas located near the head of Whitewater Creek south of Rapid Creek Reservoir No. 2 in the vicinity of the proposed route.

Visual Resources. The visual characteristics of this route range from broad valleys of low, rolling sagebrush covered hills, barren pinyon-juniper slopes, heavily vegetated mountain browse slopes, areas of dense conifers and interspersed aspen groves, very steep rocky slopes grading into very dry desert shrub areas. Much of the proposed route area can be seen for many miles from Interstate Highway 70. In addition, many tourists visit Grand Mesa and could view the proposed route.

Agriculture/Grazing. Most of the lands traversed by this route are utilized for grazing by domestic livestock. In addition, there are some agricultural lands in the vicinity of Collbran and south of Rifle that include dryland pastures, native grass pastures, and irrigated pastures.

Land Use Plans and Concerns. There is a draft Forest Land Management Plan for the Grand Mesa National Forest presently out for comment. A small portion of this route would cross the Grand Mesa National Forest, but there does not appear to be any land use decisions in the pipeline area that would preclude construction. Most of the route would be located on private land.

De Beque--Salt Wash Corridor

Location. This proposed variation to the Rifle Interstate Highway 70 Corridor would start at De Beque, Colorado, and traverse northwest up the Dry Fork of Roan Creek, then up the South Dry Fork of Roan Creek (Garfield County Roads 109, 200 and 232), continue west up the McKay Fork, cross over the top and continue to head west down Coal Gulch to Big Salt Wash. Once the pipeline was in the Big Salt Wash area, it would head south and west (on Mesa County Road 116), crossing Colorado State Highway 139 just north of Highline Lake State Recreation Area. From this point, two alternatives are suggested: (1) after crossing Highway 139, go north and west around the State Recreation Area and head southwest down East Salt Creek to the Interstate 70 corridor; or (2) after crossing Highway 139, continue to head west staying north of the Highline Canal to the vicinity of West Salt Creek where the route would turn south to join the Interstate 70 corridor near McDonald Creek.

Description. This entire route would follow existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through the land use planning process. This route, therefore, is classified as Category 3, for purposes of this Corridor Study.

Physical Resources. This proposed route would follow existing road rights-of-way along creek bottoms until steeper, dry, rocky areas are encountered and natural gas pipeline rights-of-way are followed. From De Beque to the top near Horse Mountain (a distance of about 19 miles), the route would climb about 2,600 feet in elevation. The proposed routing down Coal Gulch to Big Salt Wash is through a narrow, steep, rocky gulch which drops about 2,500 feet in elevation over a distance of about 10 miles. The route then would follow a broad, flat alluvial valley until it intercepted the Interstate Highway 70 corridor.

Natural Resources

Vegetation. Some riparian vegetation could be encountered in the Roan Creek drainage and in Big Salt Wash.

Agriculture/Grazing. Lands that would be traversed by this route are used primarily for domestic livestock grazing. There are some agricultural lands on Roan Creek consisting of alfalfa, irrigated pastures, and dryland pastures.

2.2.3 Utah Corridors

General Description

Two sets of corridors were examined in Utah: one set of corridors followed an east to west trend from the Colorado border at a point where Interstate Highway 70 enters Utah to a point almost due west across Utah where U.S. Highway 6 enters Nevada; the second set traversed Utah from extreme southwest Wyoming to the extreme southwestern corner of Utah where the corridor would enter either Nevada or Arizona. The purpose of the first set of corridors would be to transport products westward across Utah, connecting points in Colorado and Nevada, as well as connecting with resource pickup and discharge points in Utah. The purpose of the second set of corridors would be to transport products along a rather direct route between resource pickup points in southwestern Wyoming with markets in southern Nevada and southern California.

Routes traversing central Utah east to west are hampered by the series of north-south trending mountain ranges. Pipeline design and construction must either accommodate the constraints associated with crossing the steep, rugged landform or be located in the often restricted canyons which serve as interconnections between the valley areas. Additionally, most of the existing or potential corridors within the area are created for electrical transmission lines. Many times the physical attributes which make the corridors appropriate for transmission lines would hamper pipeline placement.

The north-south trending corridor would primarily follow the routes proposed for the Rocky Mountain Pipeline Project. While much of the route for the project would traverse the more open landscape of western Utah, crossing the Wasatch Front would require careful location and design elements, as did the Rocky Mountain Pipeline Project.

Grand Resource Area Corridor

Location. The corridor would be located along Interstate Highway 70 from the Colorado border westerly to Green River, Utah, and is approximately 65 miles long.

Description. The corridor is proposed as a utility corridor in the draft Grand Resource Area Management Plan, qualifying it as a Category 1 corridor.

Physical Resources. The corridor would follow a generally flat to gently rolling landscape, with numerous intermittant and perennial streams and open vegetation. The area is presently occupied by Interstate Highway 70, the Denver and Rio Grande West Railroad, a portion of the Colorado River, 46-kV distribution line, and a 50-mile portion of the MAPCO natural gas pipeline.

Natural Resources. The following natural resources were considered as issues of concern in the draft Grand Resource Area Management Plan.

Watershed. Critical watershed issues include a number of saline-alkali soils which could contribute toward lowering water quality if disturbed, critical erosion areas, a flood prone area, and seven major washes which are often the source of flood and sediment damage.

Wildlife. Wildlife issues include the presence of pronghorn antelope and mule deer. Threatened or endangered animal species include: Bald eagles along the Green and Colorado rivers and peregrine falcon along the Colorado River. Unconfined black-footed ferret sightings have been reported in the area, and the Colorado squawfish, humpback chub, razorback squawfish, and bonytail chub are present in the Colorado and Green rivers.

Recreation. Recreation issues include an off-road vehicle use area along the interstate east of Green River. River recreation is popular on the Colorado River, and Westwater Canyon provides some of the most challenging whitewater on the Colorado River. A number of recreation sites are located along the river, as well.

Minerals. Minerals include both potential and producing oil and gas areas north of Interstate Highway 70, as well as a number of saleable sand and gravel and humates areas along the interstate.

Cultural Resources. Remains of the prehistoric Anasazi and Fremont Indian cultures have been discovered. Historic sites exist as well.

Visual Resources. The Colorado River corridor is of high visual sensitivity as are portions of the landscape along the interstate.

San Rafael Swell Corridor

Location. The corridor would be generally located along Interstate Highway 70 from Green River, Utah, westward to the junction of State Highway 10 and the interstate.

Description. The corridor is not proposed as a utility corridor in a land use plan. It is unknown whether an EIS exists for the Interstate 70 corridor, so the route is being classified as Category 3.

Physical Resources. The landscape is generally a flat to gently rolling landscape with occasional steeper slopes. Beginning at Green River, one passes through the San Rafael Valley, across the San Rafael River, the more defined San Rafael Reef, the highly scenic San Rafael Swell, and descends the Coal Cliffs before terminating at the junction of State Highway 10.

Natural Resources

Visual Resources. Few natural resource needs are better defined than the requirement to maintain the high, unobstructed and unaltered scenic quality of the region. The unlimited view to the highway traveler and views from numerous recreation sites serve as viewing points and would require extensive mitigation measures to meet public concerns.

Wilderness. Four Wilderness Study Areas (WSAs) are located within the corridor: WSAs 023 and 054 to the north of the interstate, and WSAs 007 and 029 to the south of the interstate.

Minerals. The corridor would be located across portions of the energy coal field at the western extremity of the route. Possible surface subsidence could occur in the area.

Green River--Castle Dale/Huntington Corridor

Location. The 50-mile long corridor would be located along a 345-kV transmission line. It begins at the Huntington power plant and proceeds southeasterly to Cedar Mountain and Green River, eventually connecting with the Four Corners power plant in New Mexico. Within the corridor are a proposed Green River water line and transmission line between Green River and the Hunter power plant and a gas line between Cedar Mountain and the Hunter power plant.

Description. The route would follow an existing transmission line which was constructed prior to NEPA. However, all portions of the route were assessed in the Emery Units 3 and 4 EIS, making the corridor a Category 1 route.

Additionally, the rights-of-way are addressed in the San Rafael Management Framework Plan (MFP) prepared by BLM, San Rafael Resource Area (Moab District).

Physical Resources. The route would cross flat to gently rolling terrain northwest of Green River, at times flanking more rugged terrain of the San Rafael Reef and Cedar Mountain, eventually emerging into the flat to gently rolling Castle Valley. Numerous intermittant streams cross the area, as does an old railroad grade and rural roads and trails. The Castle Valley shows signs of development, evidenced by small communities, rural homes, and small businesses and utilities.

Natural Resources

Watershed. Watershed considerations indicate soil disturbance in the area may expose highly saline soils and disturb riparian vegetation, which would adversely affect water quality.

Range Management. Range improvements in the area could be adversely affected if additional access is provided in the area or if existing rights-of-way for range management considerations are altered.

Wilderness. Two Wilderness Study Areas exist to the south of the central portion of the corridor (WSAs 023 and 054).

Land Use Plans and Concerns. The corridor would be located within the San Rafael MFP, which recognizes the need to provide rights-of-way for the 50-mile water pipeline between Green River and the Hunter power plant, and a 345kV transmission line between the town of Green River and the Huntington substation, approximately 64 miles long. The plan requires protection of various resource concerns as addressed in the previous section.

Green River--Price Corridor

Location. The corridor would be located along a portion of valley floor between Green River and Price, Utah. The corridor, approximately 65 miles long, would align with U.S. Highway 6, the Denver and Rio Grande West, and a 138-kV transmission line as it departs the upper limits of the Gunnison Valley at Green River and proceeds northwest into the Castle Valley and to Price. The land is primarily administered by BLM, with occasional interspersed state-owned sections.

Description. The corridor has not been assessed under an EIS nor does any land use plan designate a corridor through the area; however, the BLM's Price River Resource Area management recognizes the need to place utilities in the area and would attempt to accommodate requests for rights-of-way when necessary. The corridor is classified as Category 3.

Physical Resources. The eastern arm of the Castle Valley has been carved out by the upper reaches of the Price River along the northern portion of the route, and smaller tributaries (both intermittant and perennial) which drain toward the Green River toward the southern end of the route. The landform is gently rolling to flat, with low vegetative cover, contributing to long, uninterrupted vistas.

Natural Resources. No natural resource nor land use plan concerns are presently known.

Castle Valley Corridor

Location. The corridor would be located between Price, Utah, and Interstate Highway 70. The corridor, approximately 65 miles long, would lie along State Highway 10 from Price southward through the Castle Valley past the communities of Huntington, Castle Dale, and Emery, terminating at the junction of State Highway 10 and Interstate Highway 70. A number of existing utilities are

contained in the corridor, such as the two 345-kV transmission lines the length of the corridor running south and north from the Hunter and Huntington power plants. Among the proposals for new utilities within the corridor are a railroad line between Elmo, Utah, and other communities and coal fields to the south, to be operated by Denver and Rio Grande West. Another 345-kV transmission line would parallel the existing line. A 345-kV transmission line route was proposed in the IPP project EIS for the Salt Wash plant proposal. It would have connected the Hunter plant and the IPP site to the south, following State Highway 10.

Description. The corridor is classified as Category 1. The rights-of-way are addressed in the San Rafael Resource Area MFP, prepared by BLM, and all proposed utilities have been assessed in EISs.

Physical Resources. The route is located within the Castle Valley, which is characterized by flat to gently rolling terrain, broken by numerous intermittant and perennial streams and associated riparian vegetation. Portions of the valley consist of a number of communities, utilities, roads, power plants, and other modifications.

Natural Resources

Visual Resources. Visual resources of the valley are important, as the valley is highly scenic, especially toward the southern end of the corridor.

Surface Water. A number of perennial and intermittant streams drain the valley and adjoining upper slopes.

Minerals. Mineral resources are extremely important, in that coal is mined throughout the region, including portions of the valley floor. Surface subsidence would be a concern in pipeline construction and the pipeline itself would be a concern within proposed surface mined areas.

Agriculture/Grazing. The valley is heavily grazed, indicating access would need to be maintained.

Soils. Potentially, highly erosional soils could be encountered along the more southern portions of the corridor.

Land Use Plans and Concerns. The San Rafael MFP has been prepared to assist decision making for BLM-administered land within the corridor. As such, the recommendations and mitigation requirements documented in the plan would apply to a pipeline project.

Castle Dale--Soldier Creek Corridor

Location. The transmission line route would proceed northward from the Castle Dale area to Gulluly, in the Soldier Creek Canyon, then westward toward Provo.

Description. The existing 345-kV transmission line connects the Castle Dale area to the Camp Williams substation. The portion described is approximately 60 miles in length to Gulluly. A second 345-kV transmission line has been proposed by Utah Power and Light to be placed in the same corridor as the Emery to Huntington transmission line and the Huntington to Camp Williams transmission line. Since the corridor is assessed in the Emery 3 and 4 Units EIS, the route is a Category 1 route.

Physical Resources. The transmission line route would proceed northward from Castle Dale through the broad, gently rolling to flat Castle Valley and outwash areas to a point approximately 10 miles northwest of Price. At this point, the line would traverse the steep to rugged slopes of the Wasatch Plateau. It would cross the headwaters of the Price River and a spur of the Denver and Rio Grande West Railroad near Scofield Reservoir before descending to Gulluly in the Soldier Creek Canyon.

Natural Resources

Soils. Landslide potential is low for the more gentle terrain, but increases to extreme limits when reaching the more rugged slopes along the northern portion of the route. Erosion hazard is high along the first portion with moderate tendencies toward the northern end.

Wildlife. Wildlife varies along the route from raptors, upland game, waterfowl toward the south, deer winter range in the middle, and deer and elk summer range along the northern portion.

Visual Resources. Visual resources include Class A scenery and high viewer sensitivity on the northern slopes.

Huntington--Mount Pleasant Corridor

Location. The transmission line route would begin at the Huntington power plant, near Huntington, Utah, and proceed northwestward to Mount Pleasant, Utah.

Description. The 345-kV transmission line corridor, approximately 25 miles in length, begins at the Huntington power plant and crosses the Manti Top to Mount Pleasant, and eventually ties with the Mona substation in central Utah. The route will not be discussed beyond Mount Pleasant. A second transmission line is proposed for the area. The route was assessed for environmental factors in the Huntington Plant EIS, indicating a Category 1 classification.

Physical Resources. From the Huntington plant, the route would proceed westward up the steep and rugged Meetinghouse Canyon, follow the top of the steep-sided East Mountain ridge and descend to the flatter Upper Joe's Valley. It then would gain elevation and cross the rugged Wasatch Plateau and descend the steep western slopes again to Mount Pleasant in the Sanpete Valley below. The line would continue northwesterly but was not assessed further.

Natural Resources

Geology. A possible thermal area has been identified in the valley near Mount Pleasant.

Minerals. Coal resources may be encountered along the eastern portion of the route.

Soils. Soils in many areas tend to be highly erosive and susceptible to slumping throughout the Manti Top region. Most slopes are extremely steep.

Visual Resources. Higher portions of the Manti Top are highly scenic and of high visual sensitivity, since the area is used extensively for many types of recreational activities, including hunting. The road across the Manti Top is used extensively by recreationists.

Wilderness. Three RARE II areas (407, 409, and 413) are situated along the route, indicating the need to study the area for wilderness values.

Land Use Plans and Concerns. The route will most likely be designated in the Manti-LaSal National Forest Management Plan as an aboveground utility corridor only. The potential to place a pipeline along the route may not be feasible under such a designation.

Interstate Highway 70--Scipio Pass Corridor

Location. The corridor is located between Castle Dale and the IPP Plant, through Salina Canyon and Scipio Pass.

Description. The approximately 153-mile long route follows Utah State Highway 10 south to the junction with Interstate Highway 70, at which point it proceeds westward along the interstate to Salina, Utah. It then proceeds northward and westward along the portion of the existing 230-kV transmission line route which connects Sigard, Utah, and Gonder, Nevada. After proceeding through Scipio Pass, the route intersects with the West Salt Lake Alternative of the Rocky Mountain Pipeline Project and follows northward, terminating at the IPP Plant. The portions of the route between Castle Dale and Interstate Highway 70 is recognized in the Emery project EIS and the BLM San Rafael Area MFP, and the portion along the Rocky Mountain Pipeline Project, West Salt Lake

Alternative is studied in its EIS; therefore, the portions are classed as Category 1. It is presently unknown if an EIS exists for the portion of Interstate Highway 70 which would be followed and the Sigard-Gonder transmission line was built pre-NEPA, so these portions are Category 3.

For a discussion of physical and natural resource values and land use plans and concerns for portion of the route coinciding with portions of the Castle Valley, Rocky Mountain Pipeline Project, West Salt Lake Alternative; and the Sigard-Gonder Transmission line, refer to appropriate portions of those three route descriptions. The remaining portion is discussed below.

Physical Resources. Proceeding westward along Interstate Highway 70 where the Castle Valley route intersects Interstate 70, the route follows the restricted, but passable, Salina Canyon. An abandoned Denver and Rio Grande West Railroad grade and portions of an old highway occupy the corridor, as do the Ivie, Meadow, and Salina creeks. At Salina, the route follows the flat to gently rolling valley landscape along U.S. Highway 50 approximately 10 miles west of Salina where it would intercept the Sigard-Gonder transmission line.

Natural Resources

Minerals. Coal fields underlay the eastern portion of the route along Interstate Highway 70. Subsidence from mining may become an issue in the future construction of underground facilities.

Geology. A possible thermal area has been identified in the Sigard-Salina area within the valley confines. A possible thermal area has been identified for the San Pitch and Sevier Desert valleys.

Visual Resources. The Salina Canyon is very scenic and visual sensitivity is high.

Cultural Resources/T&E Species. The Trough Hollow Archaeological District is situated north of the east entrance to Salina Canyon, as are the presence of critical habitat for bald eagle and the fish hook cactus.

Interstate Highway 70--Leamington Pass Corridor

Location. The corridor is located between Castle Dale and the IPP plant through Salina Canyon, past Scipio, and through Leamington Pass, to the IPP plant.

Description. The approximately 156-mile long route follows Utah State Highway 10 south to the junction with Interstate Highway 70, at which point it proceeds northward to Scipio along a portion of the existing 230-kV transmission line between the Sigard, Utah, and Gonder, Nevada, substations. At Scipio, the route would not follow any existing utility routes, but would proceed northward, turning west through Leamington Pass and terminating at the IPP power plant. The portion of the route between Castle Dale and Interstate Highway 70 is discussed in the Emery project EIS and is classified as Category 1. It is presently unknown whether an EIS was prepared for the portion of the route through Salina Canyon, and it is assumed the Sigard-Gonder transmission line was constructed prior to NEPA, and the remainder of the route is unassessed, as well. Therefore, the remainder of the route is classified as Category 3.

Since the Castle Valley route has been described and the segment between the Interstate 70-State Highway 10 portion to Scipio has been discussed under the Interstate Highway 70--Scipio Pass Corridor description, only the remaining portion from Scipio through Leamington Pass will be addressed.

Physical Resources. The route proceeds northward from Scipio through the flat to gently rolling valley floor, then proceeds westward through the more rugged, but passable, Leamington Pass portion of the Canyon Mountains. Descending the western slope of the mountains, the route enters the flat Sevier Desert Valley after crossing the Sevier River. It terminates at the IPP plant in the open valley.

Natural Resources. Ground water is evidently high in the Scipio Valley. No other resource concerns are known to exist at this time.

Ephraim Corridor

Location. The corridor is located between Castle Dale and the IPP power plant along a generally direct route.

Description. The approximately 115-mile long route was proposed by the Bureau of Reclamation as a direct route between the Castle Dale area and the IPP power plant. The corridor proceeds west from Castle Dale through Straight Canyon, past Joe's Valley Reservoir, and across the Manti Top, essentially following Utah State Highway 29. It continues down the west flank of the Manti Top to the Ephraim area and across the Sevier River, past Lynndyl, and terminates at the IPP power plant. No portions of the corridor are believed to have been studied under an EIS, and is classified as Category 2.

The following discussion will address features of the portion of the route between Castle Dale and the east entrance to Leamington Pass. Refer to the description for the remaining portion in the Interstate Highway 70--Leamington Pass Corridor description.

Physical Resources. From the Castle Valley, the route proceeds westward from Castle Dale along Cottonwood Creek across gentle to moderate terrain features. Upon entering Straight Canyon, the terrain becomes extremely steep and constricted. The route passes Joe's Valley Dam and Reservoir and continues across moderate to rugged slopes of the Wasatch Plateau and descends the western flank of the formation to a location near Ephraim. The route proceeds across the flat San Pitch Valley and its numerous canals and other waterways to the rugged San Pitch Mountains to the west. Upon descending the west slope of the mountains, the route crosses the gentle Juab Valley landscape near the community of Juab and ascends the moderate slopes of the West Hills. After gently descending to the Little Valley and crossing the Sevier River, the route approaches the east entrance to Leamington Pass.

Natural Resources

Soils. Areas of unstable soils and landslide conditions are present throughout the Manti Top region, and heavy erosion areas are known to exist along the western flanks of the San Pitch Mountains. Stabilization projects are evident to the west and south of Joe's Valley Lake.

Recreation. Recreation uses, including hunting, are an important resource of the Manti Top, including visitor sensitivities toward proposed changes in the region.

Ground Water/Geology. The San Pitch Valley experiences high ground water conditions throughout most of the year. The valley is also classified as a possible thermal area.

Wilderness. Wilderness potential is identified by the presence of numerous RARE II areas on National forest lands across the Manti Top. They include units 412, 413, 414, and 415.

Land Use Plans and Concerns. The Manti-LaSal National Forest's land use plan probably will not designate a corridor across the Manti Top. The area more likely will be defined as an exclusion or avoidance area; no right-of-way would be granted across an exclusion area, whereas an avoidance area could be modified through a change in the land use plan to accommodate a utility right-of-way. BLM land use plans do not designate corridors, but normally would permit rights-of-way grants.

Mountain Fuels Pipeline Corridor

Location. The corridor is located along the existing Mountain Fuels pipeline from Price to Indianola, Utah, then follows the Rocky Mountain Pipeline Project (RMPP) proposed action, to Nephi, then follows the RMPP, Central Nevada Alternative, to the IPP plant.

Description. The approximately 137-mile long route proceeds west from Price to Clear Creek then continues northwest across a portion of the Manti-LaSal National Forest, known as Manti Top, following the existing Mountain Fuels natural gas pipeline. The corridor descends the west flank of the area, turning westward before reaching Indianola. The route joins the proposed action RMPP alignment at State Highway 132, and follows the highway through Salt Creek Canyon, past Nephi, along the Sevier River to Lynndyl. It then proceeds westward to the IPP site. The portion of the route between Price and Indianola is Category 3, since the pipeline was built prior to NEPA and no EIS work has been completed. The remainder of the route is Category 1, since it follows the RMPP assessed corridor.

The following descriptions apply only to the portion of the route following the Mountain Fuels pipeline across the Manti Top. Refer to the RMPP route narrative for information pertaining to the remainder of the route.

Physical Resources. The route proceeds north and west from Price, encountering gentle to moderate terrain until reaching the boundary of the Manti-LaSal National Forest. At this point, the terrain becomes moderate to steep, and in cases, includes knife-edged ridges as the route crosses the Wasatch Plateau. The line descends the extremely steep west slopes of the Manti Top and joins the RMPP route near Indianola.

Natural Resources

Minerals. Coal resources are encountered along the eastern portion of the route. Surface subsidence is possible in coal regions where underground mining has occurred.

Soils. Areas of soils tend to be highly erosive and suceptible to slumping throughout the Manti Top region.

Visual Resources/Recreation. Higher portions of the Manti Top are highly scenic and of high visual sensitivity, since the area is used extensively for many forms of recreation, including hunting.

Wilderness. Numerous RARE II units exist along the Manti Top, adjoining the pipeline right-of-way along a majority of the route. Units include numbers 401, 403, 405, 406, and 408.

Land Use Plans and Concerns. The Manti-LaSal National Forest will probably recognize a window across the Manti Top as a below-ground utility corridor following the existing pipeline right-of-way. However, the extent of the corridor probably will be limited to the present right-of-way width of 50 to 75 feet. No other land use plan concerns are anticipated.

Soldier Creek Corridor

Location. The corridor is located along U.S. Highway 6 north of Price, Utah, to Soldier Creek, where it follows the RMPP, proposed action, to Nephi, then follows the RMPP, Central Nevada Alternative, to the IPP plant.

Description. The approximately 153-mile long route would follow existing transmission lines, U.S. Highway 6, and the Denver and Rio Grande West railroad northwest of Price to Soldier Summit, then proceed down Soldier Creek Canyon westward to the RMPP route. The RMPP route would then be followed through Salt Creek Canyon, past Nephi, and proceed along Utah State Highway 132 to Lynndyl, then terminate at the IPP plant. The portion of the route between Price and Soldier Creek Canyon would be Category 3, since no EIS work is known to be completed for this reach, whereas the remainder of the route would be Category 1, because of the EISs completed for the RMPP and IPP projects.

The following descriptions apply only to the eastern most portion of the route between Price and the interception of the RMPP route in Soldier Creek Canyon. Refer to the RMPP, proposed action and Central Nevada Alternative, for descriptions of the remainder of this route.

Description. The route proceeds approximately 6 miles north of Price across flat to gently rolling terrain, where it enters the severely constricted Price River Canyon. The constriction occurs because of the steep, confined canyon walls as well as the presence of the Price River, U.S. Highway 6, the Denver and Rio Grande West Railroad, and numerous transmission lines and industrial sites. Upon departing the upper reaches of the Canyon, the route crosses a flat to gently rolling high valley to Soldier Summit. The route then proceeds westward down the Soldier Creek Canyon, which is restricted by the steep terrain features of the Canyon, U.S. Highway 6, the river and transmission lines. The route intersects with the RMPP, proposed action, in the Canyon and proceeds to the IPP plant.

Natural Resources. No natural resource nor land use plan concerns are presently known.

Sigard--Gonder Corridor

Location. The route of the transmission line connects the Sigard substation near Richfield, Utah, to the Gonder substation north of Ely, Nevada.

Description. The existing 230-kV transmission line extends approximately 125 miles from the Sigard substation northward to Scipio Pass, then westward toward the Nevada border. The transmission line has been constructed and operational for a number of years, dating before NEPA. The BLM's land use plans for the area recognize the existing right-of-way, but do not designate a corridor; therefore, the route is rated as Category 3.

Physical Resources. The route begins at the Sigard substation in a flat valley shaped by the Sevier River. As the transmission line proceeds northward, it remains in a valley landscape, crossing numerous canals and streams and paralleling Utah State Highway 26 to the Scipio area. The line turns west through Scipio Pass, passage for Interstate Highway 15 and the proposed RMPP proposed route through the mountains. The route traverses the flat to gently rolling plain of the open Sevier Desert westward, crossing U.S. Highway 6, and, upon reaching Kells Knolls, turns westward across the moderately rugged House Range Mountains. The route continues across the flat to rolling landscape of the west-Utah desert and more rugged portions of the Confusion Range to the Nevada border.

Natural Resources

Ground Water. Ground water is near the surface in portions of the Scipio Valley.

Wildlife. A state wildlife refuge for waterfowl is located along the route in the Sevier Desert.

Visual Resources. Scenic quality and sensitivity of the Scipio Pass along Interstate Highway 15 is high, while the remainder of the route is generally of common quality.

Agriculture/Grazing. Most of the land use is open range, with occasional forested or agriculturalized usage.

Special Concerns. Wild horses are found along the western extremity of the route.

Wilderness. Wilderness Study Areas 035, 070, 077, and 078 are associated with the route along the western reach, as units along the Confusion and House Ranges.

IPP-Northern Nevada Corridor

Location. The corridor is located from the IPP power plant almost directly west to the Nevada border.

Description. The route is approximately 70 miles long and follows a fairly direct route from the IPP plant westward to the Nevada border, where possible weaving between portions of steeper terrain, and in places following old desert roads. Portions of the corridor were at one time considered for part of the IPP plant transmission line system and a majority of the route crosses BLM-administered lands, but the BLM does not identify a utility corridor through the area. The route is labeled as Category 2.

Physical Resources. The corridor begins at the IPP plant site near Delta, Utah, and proceeds almost directly west across agricultural lands north of the built-up area, and swings slightly northwest to pass to the north of the Drum Mountains. The route remains in flat, open landform as it continues westward through Sand Pass between the Fish Springs and House Range Mountains. Steeper, more rugged terrain is encountered as the route crosses the Confusion Mountain Range south of Gravite Mountain. The landform then flattens and becomes open as the route crosses the Snake Valley and continues to the Nevada border.

Natural Resources

Agriculture/Grazing. Agricultural crops are grown near Delta. Land use is basically open range, with occasional forest zones.

Soils. The soils consist primarily of desert types with mountain and foothills types on the upper slopes, with a slight to moderate erosion hazard in most locations, with occasional moderate to high portions intermixed.

Wilderness. Wilderness Study Areas 127 and 160 occur north and south of the route near Sand Pass.

Special Concerns. Wild horses may range throughout western portions of the route.

IPP--Gonder Corridor

Location. The route of the transmission line proceeds west from the IPP power plant to the Nevada border (terminating at the Gonder substation near Ely, Nevada).

Description. The 230-kV transmission route was proposed in the IPP EIS to connect the IPP plant near Delta with the Gonder substation. The portion of the route in Utah is approximately 80 miles long. Within Utah, the latter half of the route intersects the existing 230-kV transmission line between the Sigard substation in Utah and the Gonder substation in Nevada. Because the route was assessed as a portion of the IPP EIS, the route is classified as Category 1.

Physical Resources. The route begins at the IPP plant and stretches westward across the agricultural and urbanized portions of the flat valley bottom of the Sevier Desert north of Delta, Utah. Upon reaching Kells Knolls, the route turns westward across the moderately rugged House Range Mountains. The route continues across the flat to rolling landscape of the west-Utah desert and more rugged portions of the Confusion Range to the Nevada border.

Natural Resources

Soils. Soil erosion hazard is generally slight to moderate, with moderate to high areas in the steeper landscapes.

Special Concerns. Wild horses are found along the western extremity of the route and few game species are located along the route. A limited number of paleontological sites of significance may be present.

Southwestern IPP Corridor

Location. The route connects the RMPP, Sanpete Valley Alternative, with Southern California via the Harry Allen proposed power plant.

Description. The route is an 85-mile portion of the IPP Southern California Transmission System. The description begins at Summit, Utah, and proceeds southwestward along Interstate Highway 15, past Cedar City and St. George, Utah, crosses a small corner of Arizona and ends at the Nevada border. Since the corridor has been assessed in the IPP Salt Wash Proposal EIS, it is classified as Category 1.

Physical Resources. The route begins in the flat Parowan Valley and follows the breaks between the valley and side hills, traversing more varied and rugged terrain as it nears St. George and continues through Arizona to the Nevada border.

Natural Resources

Soils. Soil types are predominantly desert with a section of mountain and foothills near Red Butte Canyon. Erosion hazard is equally balanced between slight-to-moderate and moderate-to-high areas.

Visual Resources. Visual sensitivity is generally moderate to high.

Wilderness. Areas of special concern include a RARE II unit near the middle of the route in the Dixie National Forest and BLM Wilderness Study Areas near the Horse Ranch Mountain (WSA 148) and north of Harrisburg Junction (WSA 046).

Wildlife. A raptor concentration area exists in the Arizona portion as does a potential Desert Bighorn Sheep range. A critical deer range exists near Black Ridge.

Cultural Resources. Approximately 11 cultural resource sites exist, 2 of which are eligible for National Register status.

Paleontology. Paleontological sites range between low and moderate in potential significance.

West IPP Corridor

Location. The route connects with the RMPP near Latimer, Utah, and proceeds westward to the Nevada border.

Description. The route is a portion of the IPP project transmission line proposed to link the Paragonah substation in Utah with the Lincoln substation in Nevada and would be approximately 45 miles long. Since the corridor has been assessed in the IPP Salt Wash Proposal EIS, it is classified as Category 1.

Physical Resources. The route is located entirely within the Escalante Desert in southwest Utah, so the landform is generally flat to gently rolling with occasionally more defined local relief.

Natural Resources

Soils. The predominant soil type is desert, entering a small portion of mountain and foothills type near the Nevada border. Erosion hazard is severe to high on each end of the route and a slight-to-moderate rating for the middle.

Visual Resources. Visual sensitivity is a blend of high, medium, and low ratings, with scenic quality being primarily Class C, with Class B appearing in higher regions near the western border.

Wildlife. The Utah prairie dog is found along the central portion of the route and wild horse herds are found along sections of each end of the route. Critical deer range is found at the extreme western end of the route.

Cultural Resources. Approximately 8 cultural resource sites may be eligible for National Register nomination.

Paleontology. Paleontological resources range from low to medium in significance.

Sevier--Escalante Desert Alternative Corridor

Location. This corridor segment begins at Nephi, Utah, parallels State Highway 132 to Lynndyl, Utah, crossing through the Leamington Pass area, continues southwestward to Delta, Utah, paralleling State Highways 6 and 50, proceeding southward through the Sevier Desert area, paralleling State Highway 257 and the Union Pacific railroad rights-of-way to Milford, Utah, continuing southwestward through the Escalante Desert area, paralleling the Union Pacific Railroad and county road rights-of-way to the intersection with the RMPP pipeline route, approximately 2 miles north of Newcastle, Utah.

Description. This corridor is classified as Category 1, because it was assessed in the RMPP final EIS.

Physical Resources. The area is somewhat restricted by several utilities in the Leamington Canyon area.

No major natural resource or land use plan concerns would be affected by this corridor segment.

Central Nevada Corridor

Location. This corridor segment begins at Nephi, Utah, parrallels State Highway 132 to Lynndyl, Utah, crosses through the Leamington Pass area, then continues southwestward to Delta, Utah, paralleling State Highways 6 and 50, continuing southward to the Utah-Nevada border following State Highways 6 and 50.

Description. This corridor is classified as Category 1, because it is assessed in the RMPP final EIS.

Physical Resources. The area is somewhat restricted by several utilities in the Leamington Canyon area.

No major natural resource or land use plan concerns would be affected by this corridor segment.

Sanpete Valley Corridor

Location. This corridor segment begins 6 miles south of Indianola (where it divides from the RMPP proposed pipeline corridor) and traverses through the Sanpete Valley, paralleling State Highway 89, then continues southwestward through Richfield, Utah, to Sevier, paralleling State Highway 89 along a mountain valley. The corridor then goes southward along Highway 89 through a narrow mountain valley along the Sevier River to Spry, Utah, then westward across strongly sloping to steep sloping terrain associated with the Markagumt

Plateau area to Parowan Valley where the route parallels State Highway 15 to Enoch, Utah, and crosses westward to intersect the RMPP corridor on the Escalante Desert, south of Avon, Utah.

Description. This corridor segment is classified as Category. It was assessed in the RMPP final EIS. This corridor traverses mountain valleys, mountain sideslopes, and the broad desert valleys.

Physical Resources. This corridor crosses approximately 18 miles of strongly sloping to steep area crossing mountain terrain between the Sevier River Valley and the Escalante Desert area near Paragonah, Utah.

This corridor crosses no major natural resource areas. No specific land use concerns would be affected by this corridor segment.

West Salt Lake Alternative Corridor

Location. This corridor segment begins at Montpelier, Idaho, crosses through the Cachet National Forest to Highway 34 to Preston, Idaho, south to the Utah border. It then goes around the west side of the Great Salt Lake, south to Delta, Utah, and continues south to the town of Flowell, Utah, where it intersects the proposed preferred RMPP route.

Description. This corridor segment is classified as Category 1, because it was assessed in the RMPP final EIS.

Physical Resources. Approximately 56 miles of very strongly saline and alkaline soils are located along the north and west side of the Great Salt Lake area. Approximately 68 miles of playas areas that are subject to low strength conditions are located throughout the Great Salt Lake Desert.

This corridor segment crosses no major natural resource concern areas. No specific land use concerns would be affected.

Rocky Mountain Pipeline Corridor

Location. This corridor begins at Sage, Wyoming, approximately 12 miles west of Kemmerer, Wyoming, and traverses an area of mountain sideslopes in a southerly direction to Coalville, Utah. The corridor then continues southward through mountain terrain around the Kamas Valley area on to Mill Fork where it traverses in a southwesterly direction to Indianola, Utah, on to Nephi, Utah, crossing mountain terrain. From Nephi, this corridor traverses along the Union Pacific Railroad and State Highway 91 corridor to Scipio, Utah. It then proceedes along the Highway 15 corridor to a point 12 miles southwest of Hutton, Utah, diagonally crosses rolling areas to Melford, Utah, then

continues in a southwesterly direction to Avon, Utah. The corridor then parallels secondary road rights-of-way and strongly sloping cross county areas to the Utah border.

Description. This corridor is classified as Category 1. It was assessed in the RMPP final EIS. This corridor traverses major terrain types, mountain sideslopes, mountain valleys, and portions of the Escalante Desert.

Physical Resources. Approximately 114 miles of mountain land consisting of steep sloping areas and areas subject to landslides are crossed by this route.

Natural Resources. No natural resource concerns would be affected by this corridor segment.

Land Use Plans and Concerns. This corridor crosses the Uinta National Forest where it is in conflict with the Utility Rule of the proposed Forest Land Management Plan.

Arizona Corridors

Only one corridor in Arizona has been described. The corridor identified in the IPP Salt Wash Proposal EIS to transport electrical energy between the Parowan Substation in southwestern Utah to southern California via the proposed Harry Allen power plant cuts through the extreme northwestern corner of Arizona. Because only approximately 10 miles of this route would be in Arizona, descriptions for the limited segment are included in the Utah corridor narrative discussion (Southwestern IPP Corridor).

2.2.4 Nevada Corridors

General Description

The Phase I Corridor Study for Nevada essentially found nine potential corridor routes. Because a 10-mile wide corridor width was used, several other paralleling corridors were not identified, in order to avoid duplication of effort in describing the corridor routes.

The four north-south corridor routes between the White Pine proposed power plant sites and the Las Vegas area include: (1) White Pine--Las Vegas Corridor 1; (2) White Pine--Las Vegas Corridor 2; (3) Cathedral Gorge--Meadow Valley Corridor; and (4) Cathedral Gorge--Kane Springs Corridor.

The Rocky Mountain Pipeline Project, proposed action route in southern Nevada is described. This corridor extends from southwestern Utah to the Las Vegas area.

The Central Nevada Corridor and the Central Nevada Highway 264 Corridor comprise the routes west of the White Pine proposed power plant sites.

The east-west corridor routes between the Nevada-Utah border and the White Pine proposed power plant sites consist of the IPP--White Pine Corridor and the Mount Weaver--White Pine Corridor.

In addition to these nine potential corridor routes, six routes traversing the Las Vegas-Henderson area are presented in a separate category due to land use constraints; and political and environmental considerations. All six routes are 1-mile wide or less. The six Las Vegas-Henderson corridor routes include: (1) Rocky Mountain Pipeline Corridor; (2) East Las Vegas Variation; (3) West Las Vegas Corridor; (4) Navajo--McCullough Corridor; (5) IPP Corridor; and (6) Allen--El Dorado Corridor.

White Pine--Las Vegas Corridor 1

Location. From the northern most alternative site for the White Pine proposed plant, this corridor route would follow Nevada State Highway 93 south, which is within the BLM, Ely District's (Egan Resource Area) Planned Corridor 2. At the intersection with Nevada State Highway 2, the corridor route would go east, intersect with State Highway 893, and follow this highway south through Spring Valley and along the east slope of the Humboldt National Forest. The corridor route would continue south, intersecting with State Highway 93. (At this point, the southern most alternative site for the White Pine proposed power plant would be passed, located southeast of Ely, Nevada, and immediately east of Connor's Pass.) In Lake Valley, the corridor route would follow a two-track jeep trail southward, which intersects with BLM-maintained road 2118. Along BLM-maintained road 2118, the corridor route would continue to travel southward through Delamar Valley to new State Highway 93 and on into the Las Vegas area.

Description. The initial portion of the corridor route from the northern most alternative site for the White Pine proposed power plant southward along State Highway 93 to the intersection with State Highway 2 is classified as Category 3. The segment along State Highway 93 between Connor's Pass (State Highway 6) and the intersection with the two-track jeep trail in Lake Valley is classified as Category 1. The remaining portions of the corridor route would follow existing road rights-of-way that have not had EIS work nor been designated as utility corridors through the land use planning process. These corridor segments are, therefore, classified as Category 3.

Physical Resources. Because the corridor route would parallel existing road rights-of-way and traverse broad north-south spanning valleys, grade would not pose any concern. Spring, Lake, Dry Lake, and Delamar valleys would be paralleled along the corridor route, thereby avoiding the Schell Creek Mountain Range within the Humboldt National Forest, the Delamar Mountains, and the Sheep Mountain Range within the Desert National Wildlife Range.

Natural Resources. No major natural resource concerns would occur due to the corridor route paralleling existing road rights-of-way.

Land Use Plans and Concerns. The initial portion of the corridor route from the northernmost alternative site for the White Pine proposed power plant site 1 northward along State Highway 93 to the intersection with Nevada State Highway 2 is currently being considered as a utility corridor in the forthcoming BLM, Egan Resource Area Management Plan and Environmental Impact Statement. The corridor route segment along State Highway 93 between Connor's Pass (State Highway 6) and the intersection with the two-track jeep trail in Lake Valley has been identified as a utility corridor in the BLM, Schell Resource Area Management Framework Plan. In addition, the corridor route would cross Delamar Valley which has local agricultural and ranching value, and has been identified in the BLM Caliente Resource Area unit resource analysis as an area having agricultural potential, would be crossed. State Highway 93, south of the Pahranagat National Wildlife Refuge, would buffer against the boundary of the BLM-administered Delamar Mountain Wilderness Study Area along that unit's southwest border.

White Pine--Las Vegas Corridor 2

Location. From the northern most alternative site for the White Pine proposed power plant, this corridor route would follow the BLM, Ely District's (Egan Resource Area) Planned Corridor 2, Alternative Corridor 2, and Planned Corridor 3 southward to west of Murry's Canyon. From this point, the corridor route would continue south along a proposed FS corridor, located southwest of Ely, Nevada. The proposed FS corridor would intersect with State Highway 38. The corridor route would parallel State Highway 38 southward through the White River Valley and Pahranagat Valley and intersect with the new State Highway 93. From this point, the corridor route would parallel new State Highway 93 south, and on into the Las Vegas area.

Description. The initial portion of the corridor route from the northern most alternative site for the White Pine proposed power plant southward to west of Murry's Canyon is classified as Category 2. West and south of Murry's Canyon, the corridor route would continue southward along a proposed utility corridor route being planned in the Humboldt National Forest Management Plan and EIS. Like the BLM planned corridors, the FS corridor would also be classified as Category 2. The segment of the corridor route along State Highway 38 between Connor's Pass (State Highway 6) to the intersection with State Highway 93 is classified as Category 1. This segment of the corridor route has been identified as a utility corridor in the BLM, Schell Resource Area Management Framework Plan. The remaining portions of the corridor route would follow existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through the land use planning process. These corridor segments are, therefore, classified as Category 3.

Physical Resources. Because the corridor route would parallel existing road rights-of-way and planned utility corridors, thus traversing broad north-south spanning valleys, grade would not pose any concern. Steptoe, White River, and Pahranagat valleys would be paralleled along the corridor route, thereby avoiding the Egan Mountain Range, Murry's Canyon, the Seaman Mountain Range, the Delamar Mountains, and the Sheep Mountain Range within the Desert National Wildlife Range.

Natural Resources. No major natural resource concerns would occur due to the corridor route paralleling existing road rights-of-way or planning utility corridors.

Land Use Plans and Concerns. The initial portion of the corridor route from the northernmost alternative site for the White Pine proposed power plant southward to west of Murry's Canyon is currently being considered as a utility corridor in the forthcoming BLM, Egan Resource Area Management Plan and EIS (identified as planned corridor 2, alternative corridor 2, and planned corridor 3). West and south of Murry's Canyon, the corridor route would continue southward along a proposed utility corridor route being planned in the Humboldt National Forest Management Plan and EIS. The segment of the corridor route along State Highway 38 between Connor's Pass (State Highway 6) to the intersection with State Highway 93 has been identified as a utility corridor in the BLM, Schell Resource Area Management Framework Plan. In addition, three BLM-administered WSA boundaries would be paralleled along the corridor route. The western border of the South Egan Range WSA along State Highway 38 would be paralleled. The eastern border of the Weepah Spring WSA along State Highway 38 would be paralleled. Finally, the southwest border of the Delamar Mountain WSA along State Highway 93 would be paralleled. Pahranagat Valley, which has local, agricultural, and ranch values, and has been identified in the BLM Caliente Resource Area unit resource analysis as an area having agricultural potential, would be crossed. The corridor route would also cross the Pahranagat National Wildlife Refuge along State Highway 93.

Cathedral Gorge--Meadow Valley Corridor

Location. This corridor route would be the same as the White Pine--Las Vegas Corridor 1 route up to the point at the southern portion of Spring Lake Valley and the intersection with a two-track jeep trail. From this point, the corridor route would continue to parallel in a southward direction along State Highway 93 to Caliente, Nevada. From Caliente, the corridor route would parallel the Union Pacific railroad line and two Lincoln County maintained roads (4230 and 4299) through Meadow Valley. The corridor route would intersect the Interstate Highway 15 corridor near Moapa, Nevada, and then travel southwesterly into the Las Vegas area.

Description. Because the Cathedral Gorge State Park/Meadow Valley corridor route would parallel existing rights-of-way (State Highway 93 between the intersection of the two-track jeep trail and Caliente, Nevada; the Union Pacific railroad line and two Lincoln County maintained roads 4230 and 4299 between Caliente and Interstate 15; and Interstate 15 into Las Vegas) that have not had EIS work or been formally designated as a land use planning corridor, the entire length of the corridor is classified as Category 3.

Physical Resources. Due to the corridor route paralleling existing rights-of-way through Meadow Valley, grade would not be of concern. The corridor route between Caliente, Nevada, and Interstate Highway 15 would parallel the Meadow Valley Wash. The corridor route would cross the wash several times.

Natural Resources. Because the corridor route would parallel and cross Meadow Valley Wash several times, water quality would deteriorate to a certain degree. This would be short-term and due to construction-related activity. Some riparian vegetation would also be temporarily removed; however, following pipeline construction and rehabilitation, no long-term impacts would be anticipated.

Land Use Plans and Concerns. State Highway 93, north of Caliente, Nevada, forms the eastern boundary of the Cathedral Gorge State Park. The corridor route would parallel State Highway 93 and the eastern boundary of the Cathedral Gorge State Park. Another land use concern would occur between Carp and Moapa, Nevada. Two BLM-administered WSAs, the Mormon Mountain WSA and the Meadow Valley Range WSA, have boundaries buffering the Union Pacific railroad and Lincoln County Road 4299 rights-of-way leaving this area as a tight corridor "window" to traverse. Another WSA, the Grape Vine Spring WSA, would have its southwest border paralleled by the corridor route along Lincoln County maintained road 4230.

Cathedral Gorge--Kane Springs Corridor

Location. This corridor route would be the same as the White Pine--Las Vegas Corridor 1 route up to the point at the southern portion of Spring Lake Valley and the intersection with a two-track jeep trail. From this point, the corridor route would continue to parallel State Highway 93 in a southward direction to Caliente, Nevada. From Caliente, the corridor route would parallel BLM maintained road 4266 and Lincoln County maintained road 4217 through Kane Springs Valley. The corridor route would then intersect and parallel the old State Highway 93 and travel in a southward direction to new State Highway 93. The corridor route would parallel the new State Highway 93 south and on into he Las Vegas area.

Description. Because the Cathedral Gorge State Park/Kane Springs Valley corridor route would parallel existing rights-of-way (State Highway 93 between the intersection of the two-track jeep trail and Caliente, Nevada; BLM maintained road 4266; Lincoln County maintained road 4217; old State Highway

93; and new State Highway 93) that have not had EIS work or been formally designated as a land use planning corridor, the entire length of the corridor route is classified as Category 3.

Physical Resources. Due to the corridor route paralleling existing road rights-of-way through Kane Springs Valley, grade would not pose any concern. The segment of the corridor route between Caliente to the intersection with old State Highway 93 would parallel Kane Springs Valley, thereby avoiding the Delamar Mountain Range.

Natural Resources. No major natural resource concerns would occur due to the corridor route paralleling existing road rights-of-way.

Land Use Plans and Concerns. State Highway 93, north of Caliente, Nevada, forms the eastern boundary of the Cathedral Gorge State Park. The corridor route would parallel State Highway 93 and the eastern boundary of the Cathedral Gorge State Park. Another land use concern would occur between Caliente and the intersection with old State Highway 93. Two BLM-administered WSAs, the Meadow Valley Range WSA and the Delamar Mountain WSA, have their boundaries buffering the Lincoln County maintained road 4217 through Kane Springs Valley. This area of the corridor route would leave a tight corridor "window" to traverse. Another WSA, the Grape Vine Springs WSA, would have its western border paralleled by the corridor route along BLM maintained road 4266.

Rocky Mountain Pipeline Corridor

Location. This corridor route would cross the southern portion of Nevada, and follow the Rocky Mountain Pipeline Project, proposed action route. From north of Mesquite, Nevada, the corridor route would head in a southwesterly direction towards Moapa, Nevada. Approximately 4 miles east of Moapa, the corridor route would cross on to the south side of Intertate 15 at Glendale, Nevada. From Glendale, the corridor route basically would parallel Interstate 15 into the Las Vegas-Henderson area. (Refer to the Las Vegas-Henderson Corridors, Section 2.2.5.) South of the Las Vegas-Henderson area, the corridor route would basically parallel State Highway 95 to the Nevada-California state line.

Description. Because the Rocky Mountain Pipeline Project, proposed action route has been assessed in an Final EIS--Rocky Mountain Pipeline Project (BLM 1981)--this corridor route is classified as Category 1.

Physical Resources. Because the corridor route would be within an already EIS assessed route for a natural gas pipeline, and basically paralleling Interstate 15, grade would not pose any concern. Moapa and Dry Lake Valley north of Las Vegas would be crossed, while the Mormon Mountain Range would be avoided. South of Las Vegas, the corridor route would basically parallel State Highway 95 crossing Eldorado Valley, while the McCullough Mountain Range would be avoided.

Natural Resources. No major natural resource concerns would occur, due to the corridor route being within an already assessed right-of-way and basically paralleling Interstate 15, north of Las Vegas, and State Highway 95, south of Las Vegas.

Land Use Plans and Concerns. North of Las Vegas, the corridor route would pass through a designated 3,000-foot energy and utility corridor, which traverses the Moapa Indian Reservation. South of Las Vegas, along State Highway 95, Eldorado Valley is being planned for as a future industrial park.

Central Nevada Corridor

Location. This corridor route basically would parallel State Highway 6 in a east to west direction across the central portion of Nevada. There are three areas along State Highway 6 where the corridor route would deviate from paralleling the State Highway. First, to avoid Murray's Canyon west of Ely, Nevada, the corridor route would follow the BLM, Ely District's (Egan Resource Area) Planned Corridor 2. Second, to avoid Currant summit and canyon area, the corridor route would follow a Forest Service proposed corridor to the east and south of Currant Pass and then once again intersect and parallel State Highway 6 near Currant, Nevada. Third, to avoid private land concerns in the Toiyabe National Forest along State Highay 6 east of Tonopah, Nevada, the corridor route would follow a Forest Service alternative route to the south of the forest and then tie back into the State Highway 6 corridor.

Description. Because the Rocky Mountain Pipeline Project, Central Nevada Alternative has been assessed in a Final EIS--Rocky Mountain Pipeline Project (BLM 1981)--this corridor route is classified as Category 1, for purposes of this Corridor Study, with the exception of three areas which would deviate from the corridor route (refer to the Location section for these three deviation segments). The three deviation segments are classified as Category 2, because they have not been environmentally assessed.

Physical Resources. Since the corridor route generally would parallel State Highway 6, grade would not pose any concerns. Several mountain ranges would be avoided, including (from east to west) the Snake Range, Egan Range, Grant Range, Toiyabe Range, and the White Mountain Range.

Natural Resources. No major natural resource concerns would occur due to the corridor route paralleling State Highway 6, and the three deviation segments avoiding Murry's Canyon, Currant Summit and Canyon, and the private land holdings within the Toiyabe National Forest.

Land Use Plans and Concerns. As mentioned in the Location section, three segments of the corridor route along State Highway 6 would follow planned utility corridors, as preliminary identified by the BLM and FS through their land use planning processes. Additionally, the corridor route would cross the northern edge of the only oil producing field in Nevada, approximately 10 miles southwest of Currant, Nevada. The corridor route would also cross the proposed addition of the Lunar Crater National Natural Landmark, approximately 30 miles northeast of Warm Springs, Nevada.

Central Nevada--Highway 264 Corridor

Location. This corridor route would be the same as the Rocky Mountain Pipeline Project--Central Nevada Alternative which basically parallels State Highway 6 in a east-west direction. The difference would be in the western most portion of the corridor route. Instead of continuing to parallel State Highway 6 into California, this corridor route would parallel and head southward along new State Highway 264 into California.

Description. This corridor route would be similar to the Rocky Mountain Pipeline Project--Central Nevada Alternative (with three deviation segments to avoid Murry's Canyon, Currant Summit and Canyon, and private land concerns in the Toiyabe National Forest along State Highway 6 east of Tonopah, Nevada) with the exception of the last 28 miles of the corridor route in western Nevada. Instead, the corridor route would head southward along State Highway 264. The Rocky Mountain Pipeline Project--Central Nevada Alternative, including the three segment deviations (refer to preceding discussion on Central Nevada Corridor), would be considered as Category 1. The portion of the corridor route paralleling State Highway 264 is classified as Category 3, because no environmental assessment has occurred for this road right-of-way.

Physical Resources. The corridor route paralleling northward State Highway 264 would cross the Fish Lake Valley along the eastern slope of the White Mountains. Because State Highway 264 crosses Fish Lake Valley, grade would not pose any concerns. (Refer to the Rocky Mountain Pipeline Project--Central Nevada Alternative, for a description of the remaining portion of the corridor route.)

Natural Resources. No major natural resource concerns would occur, since the corridor route would parallel State Highway 6; the three deviation segments would avoid Murry's Canyon, Currant Summit and Canyon, and private land holdings within the Toiyabe National Forest; and State Highway 264.

Land Use Plans and Concerns. There would be no land use plans or concerns for the portion of the corridor route paralleling State Highway 264. Refer to the Central Nevada Corridor Section, Land Use Plans and Concerns section, for details on the remaining portion of the corridor route.

IPP--White Pine Corridor

Location. This proposed corridor route for the IPP project would enter Nevada south of the Goshute Indian Reservation and head in a north, northwesterly straight line direction for the northern most site for the White Pine proposed power plant (site 1).

Description. The corridor route is classified as Category 1, because it was environmentally assessed in the IPP EIS (1979).

Physical Resources. The corridor route would head in a north-northwesterly direction from the Nevada-Utah border, through Pleasant Valley (south of the Goshute Indian Reservation), parallel State Highway 2, which crosses Spring Valley Creek, and head northward along State Highway 93 to the northern most site for the White Pine proposed power plant. Grade would not pose any concerns, due to the corridor route following valley floors and existing road rights-of-way.

Natural Resources. No major natural resource concerns would occur, due to the corridor route paralleling valley floors and existing road right-of-way.

Land Use Plans and Concerns. The segment of the corridor route paralleling State Highway 93 southward has been preliminary identified as a planned corridor (planned corridor 2) in the forthcoming BLM Egan Resource Area Management Plan.

Mount Weaver--White Pine Corridor

Location. The corridor route would enter Nevada from Utah approximately 10 miles north of State Highway 6 and head in a east to west direction, paralleling the Mount Weaver power line (between the Mt. Moriah and Wheeler Peak divisions of the Humboldt National Forest). Additionally, the corridor route would cross State Highway 6, 5 miles north of Baker, Nevada, and intersect and parallel State Highway 6 through Connor's Pass. At Ely, Nevada, the corridor route would head northward paralleling State Highway 93 and within the BLM, Ely District's (Egan Resource Area) Planned Corridor 2 to the northern most site for the White Pine proposed power plant.

Description. The segment of the corridor route from the Nevada-Utah border westward to the intersection with State Highway 6 in Spring Valley (northeast of Connor's Pass) can be considered as a Category 1 route, due to this segment having been environmentally assessed in the IPP EIS (1979). The segment of the corridor route paralleling State Highway 6 through Connor's Pass to the intersection with State Highway 93 was also environmental assessed in the Rocky Mountain Pipeline Project EIS (1981). The segment of the corridor route paralleling State Highway 93 northward to the northern most site for the White Pine proposed power plant has been preliminary identified in the BLM Ely District's (Egan Resource Area) as a planned utility corridor (planned corridor 2) for the forthcoming Egan Resource Area Management Plan.

Physical Resources. The corridor route would not exceed any grade constraints, due to it generally paralleling existing road rights-of-way. The corridor route would cross between Mount Moriah and Wheeler Park, cross Spring Valley, parallel Connor's Pass, which is a tight but passable canyon area, and finally head northward along Steptoe Valley.

Natural Resources. Connor's Pass and canyon area is known to be an area for elk wintering. Although the pass and canyon area would be narrow in places, the Forest Service has indicated that the area is passable for pipeline construction activity.

Land Use Plans and Concerns. The segment of the corridor route paralleling State Highway 93 northward has been preliminary identified as a planned corridor (planned corridor 2) in the forthcoming BLM Egan Resource Area Management Plan.

2.2.5 Las Vegas--Henderson Corridors

General Description

Phase 1 of the Aquatrain Corridor Study involves the possibility of locating a pipeline corridor through the Las Vegas-Henderson corridor area. The Las Vegas-Henderson corridor area consists of two highly sensitive areas: (1) a 22 by 26 square mile area described by the BLM as the Las Vegas Valley Planning Area. The area involves the city of Las Vegas, east and north Las Vegas, the city of Henderson, the lower end of the Desert National Wildlife Range, Sheep Mountain Gunnery Range, Nellis Air Force Base, a variety of special use areas, and privately-owned land; (2) the Henderson corridor area, which is located between the Las Vegas Valley Planning Area and the Lake Mead National Recreation Area, and within the city limits of Henderson.

Rocky Mountain Pipeline Corridor

Location. A proposed Rocky Mountain high pressure natural gas pipeline corridor goes through the Las Vegas Valley Planning Area.

The proposed corridor route would enter the area at the northeast corner and run south-southwest, leaving the area at the southeast corner. The proposed corridor route would cross the Sunrise Mountain Natural Area (proposed National Landmark), cross the Las Vegas Wash (proposed wetlands park), and pass through the city of Henderson and a part of the BLM-administered 105,000-acres that are slated for transfer to the state of Nevada.

Description. Because the Rocky Mountain Pipeline Project proposed action route has been assesed in a final EIS--Rocky Mountain Pipeline Project (1981)--this corridor route is classified as Category 1.

Physical Resources. The topography along the proposed RMPP proposed action within the Las Vegas Valley Planning Area is flat to rolling, except for when it crosses the Sunrise Mountain Natural Area and the Frenchman Mountain-Rainbow Gardens Natural Area.

Natural Resources

Vegetation. Because of the low precipitation, it could take more than 5 years to reestablish vegetation in the right-of-way.

Soils. The Las Vegas Wash is a critical erosion area and could increase the soil erosion and headcutting problem that already exists in the area.

Visual Resources. The critical view point (a point where the proposed change would be most apparent) of the route is Frenchman Mountain-Rainbow Gardens. The corridor would affect the land form and vegetation and would have a long-term effect.

Land Use Plans and Concerns. Pipeline placement through Henderson, Nevada, could significantly conflict with the urban subdivisions and the Henderson Planning Commission's plans for expansion. In 1981, because of these plans, the commission denied the IPPs request for a conditional use permit to construct a high voltage transmission system.

East Las Vegas Variation

Location. A proposed high pressure natural gas pipeline corridor that goes through the Las Vegas Valley Planning Area.

The proposed corridor route would enter the area at the northeast corner and run southwest and then turn south and leave the area at the southeast corner. The proposed corridor route would cross Las Vegas Wash recreational lands and a narrow strip of land owned by Nellis Air Force Base, cross a portion of the city limits of North Las Vegas, follow IPP's right-of-way southward, which is adjacent to the Sloan's ditch and the sewage water line

going to IPP's power plant, and into east Las Vegas, run adjacent to a proposed high use area within the Las Vegas Wash area and follow the proposed Interstate Route I-515 out of the area.

Description. Because the Rocky Mountain Pipeline Project proposed East Las Vegas Variation has been assessed in a final EIS--Rocky Mountain Pipeline Project (1981)--this corridor route is classified as Category 1, for purposes of this Corridor Study.

Physical Resources. The topography along the RMPP East Las Vegas Variation within the Las Vegas Valley Planning Area is flat to rolling.

Natural Resources

Vegetation. The overstory vegetation of the creosote bush type would require longer than 5 years to return to preconstruction proportions.

Wildlife. Present bighorn sheep ranges would be affected for an estimated 5 miles (61 acres) within the River Mountains.

Visual Resources. The critical view point (a point where the proposed change would be most apparent) of the route is the Las Vegas Dunes recreation lands. The corridor would affect the land form and vegetation and would have a long-term affect.

Recreation Resources. Construction of a corridor through the Las Vegas Sand Dunes recreation lands could create a potential safety hazard (conflict between number of people and vehicles). This hazard would last approximately 2 weeks during pipeline construction.

Land Use Plans and Concerns. The East Las Vegas Variation would traverse several areas with land use or administrative problems, including the Nellis Air Force Base controlled area, Sloan's ditch, and some subdivisions and a mobile home park in Henderson.

Pipeline construction could affect operations and future U.S. Air Force development plans near Nellis Air Force Base. The Nellis Air Force Base Command Facilities Board would determine the variation's compatability with its own use before issuing or denying a permit.

The variation would closely parallel the Sloan's ditch, which is being rapidly encroached upon by residential development. Because of the location and density of present and proposed urban development, acquisition of a right-of-way for the East Las Vegas Variation along the ditch appears to be difficult, if not impossible, to obtain.

The variation would also conflict with the newly approved mobile home park site and several subdivisions in Henderson.

West Las Vegas Corridor

Location. This route would enter the Las Vegas Valley Planning Area at the northeast corner and run due west across the top of the planning area and across the lower portion of the Desert National Wildlife Range and connect with a proposed utility corridor that runs north and south and leaves the planning area at the southwest corner.

Description. Because that portion of the West Las Vegas Alternative that runs due west across the lower portion of the Desert National Wildlife Range has been environmentally assessed, this section of the route would be a Category 3 route, for purposes of this Corridor Study. Where the corridor turns south and runs out of the planning area is designated as a proposed corridor by BLM, this segment is classified as Category 1, for purposes of this Corridor Study.

Natural Resources. No physical or natural resources would be adversely affected by implementation of this corridor.

Land Use Plans and Concerns. The West Las Vegas Alternative would traverse several areas of land use and administrative problems. The pipeline placement through the west side of Las Vegas could significantly conflict with the Las Vegas Urban Planning Commission and Clark County Planning Commission development plans. Planning the pipeline construction adjacent to a highway in a high density area could conflict with projected commercial/industrial development that would occur along both sides of a highway.

Navajo McCollough Corridor

Location. The established Navajo McCullough 500-kV transmission line and corridor would go through the Henderson corridor area. The existing corridor crosses the Sunrise Mountain Natural Area, the Rainbow Gardens, the Las Vegas Wash (proposed wetlands park), through the city of Henderson and part of the Bureau of Reclamation's approximate 10,000 withdrawn acres, located within the city limits of Henderson, which is slated to be transferred to the city of Henderson.

Description. Because the Navajo McCullough transmission line has been assessed in the final EIS (1972) and built, it would be a Category 1 route, for purposes of this Corridor Study.

Physical Resources. The topography along the existing Navajo McCullough transmission corridor within the Henderson corridor is flat terrain.

Natural Resources. No known natural resources would be adversely affected by implementation of this corridor.

Land Use Plans and Concerns. The placing of a pipeline within the Navajo McCullough corridor through the City of Henderson would significantly conflict with the urban subdivisions and Henderson Planning Commission's plans for expansion. Because of these plans, the commission in 1981 denied the IPPs request for a condtional use permit to construct a high voltage transmission system. The original IPP request for a right-of-way would have followed the Navajo McCullough right-of-way.

IPP Corridor

Location. The Intermountain Power Project (IPP) transmission corridor alternative would carry two 500-kV lines and follow the Navajo McCullough Corridor route into the Henderson Corridor Area. The corridor would cross the Las Vegas Wash (proposed wetland park), through the city of Henderson and a part of the Bureau of Reclamation's approximate 10,000 withdrawn acres, within the city limits of Henderson, which is slated to be transfered to the city of Henderson, then leaves the Navajo McCullough right-of-way and transects the west side of the River Mountains, located within the Bighorn Sheep Winter Range, and returns to the Navajo McCullough right-of-way.

Description. The IPP corridor route is classified as Category 2, for purposes of this Corridor Study, because it was not environmentally assessed in the IPP EIS (1979).

Physical Resources. It would be difficult, if not impossible for that portion of IPP Alternative that transects the west side of the River Mountains to construct a pipeline due to the steepness of the terrain.

Natural Resources

Wildlife. The route crosses significant bighorn sheep winter range for approximately 6 miles.

Land Use Plans and Concerns. The placing of the pipeline outside Henderson urban development area and into the River Mountain eliminates one problem but places a question as to whether a pipeline could be constructed that has to follow a transmission corridor that would have to transect the River Mountains.

Allen--El Dorado Corridor

Location. The Allen El Dorado Alternative transmission corridor would carry two 500-kV lines and follow the Navajo McCullough corridor route into the Henderson corridor area. The corridor would cross the Las Vegas Wash (proposed wetland park) through the city of Henderson and part of the Bureau of Reclamation's approximate 10,000 withdrawn acres, within the city limits of Henderson, which is slated to be transferred to the city of Henderson, then leave the Navajo McCullough right-of-way and transect the west side of the River Mountains, located within the bighorn sheep winter range, and return to the Navajo McCullough right-of-way.

Description. The Allen El Dorado alternative corridor is classified as Category 2, for purposes of this Corridor Study, because it was not environmentally assessed in the Allen El Dorado EIS.

Physical Resources. That portion of Allen El Dorado that transects the west side of the River Mountains would be difficult to construct a pipeline due to the steepness of the terrain.

Natural Resources

Wildlife. This corridor would cross approximately 6 miles of bighorn sheep winter range.

Land Use Plans and Concerns. The placing of the pipeline outside the Henderson urban development area and into the River Mountains eliminates one problem but places a question as to whether a pipeline could be constructed that has to follow a transmission corridor that would have to transect the west side of the River Mountains.

2.2.6 California Corridors

General Description

Two sets of corridors were basically examined in California. The first set involved north-south trending corridors through Owens Valley and paralleling the Colorado River Basin. The second set of corridors traversed the California Desert Conservation Area (CDCA) to coastal port areas at Los Angeles and Long Beach, Oxnard, and Gaviota, California. These corridors generally trend from east to west.

In all, thirteen corridor routes were identified. Most of these corridor routes have been designated as energy and utility corridors and environmentally assessed in the CDCA Plan and accompanying EIS, the Rocky Mountain Pipeline Project (RMPP) EIS, and the Sohio Pipeline Project EIS. Corridor route segments to the potential port areas at Gaviota, California, from outside the CDCA to Gaviota, are expected to have environmental assessment work completed within the next 2- to 3-years with the All-American Pipeline Project and the Getty Oil Company's proposed pipeline project.

Central Nevada--Long Beach Corridor

Location. The corridor route would parallel the RMPP, Central Nevada Alternative route, which basically parallel State Highways 6 and 395 in a southerly direction through the Owens Valley. Between the southern edge of Owens Lake and approximately 10 miles west of China Lake, California, the corridor route would be within the 2-mile wide Corridor A as developed in the BLM, CDCA Plan (September 1980). From approximately 10 miles west of China Lake, the corridor route would parallel State Highway 395, and intersect and parallel Interstate Highway 15 through Cajon Pass. Interstate Highway 15 would intersect with Interstate Highway 10. From Interstate Highway 10, the corridor route would parallel the Sohio proposed corridor route in a westerly direction to the Port of Long Beach.

Description. Because the entire corridor route has been assessed in several EISs, it is classified as Category 1 for purposes of this Corridor Study. The corridor route segment from the California-Nevada border to the southern edge of Owens Lake was assessed in the RMPP EIS as the Central Nevada Alternative route. The portion of the corridor route following the 2-mile wide Corridor A was assessed in the CDCA Plan and accompanying EIS (September 1980). The corridor segment paralleling California State Highway 395 from west of China Lake, California, to the intersection with Interstate Highway 15 near Victorville, California, was assessed in the RMPP EIS (December 1981). However, this corridor segment was not designated as an energy and utility corridor in the CDCA Plan and would, therefore, require further environmental assessment. The portion of the corridor route paralleling Interstate Highway 15 through Cajon Pass has been identified as an energy corridor by the San Bernardino National Forest. The corridor segment paralleling Interstate Highway 10 west to Long Beach was assessed in the Sohio Pipeline Project EIS (1976), proposed route.

Physical Resources. The corridor route for the most part parallels broad valleys. Owens, and Antelope valleys would be followed. Cajon Pass would be crossed. South of Cajon Pass, the corridor route would follow the coastal zone to Long Beach.

Natural Resources. Owens Valley is a politically sensitive watershed area. The corridor would cross deer and elk range in Owens Valley. South of Owens Lake, desert tortoise range would be crossed to Victorville, California. The desert tortoise is listed as rare on the California Game and Fish Department's Endangered, Threatened, and Rare listing, and "sensitive" on the BLM Species Sensitive listing. Several fault zones (i.e., San Andrea Fault in Cajon Pass) would need to be crossed.

Land Use Plans and Concerns. Much of Owens Valley is privately owned by the Los Angeles Water and Power Department. The valley is a major watershed drainage and corridor to transport water to Los Angeles. South of Owens Lake to Victorville, California, the corridor route would cross the CDCA as established by Congress with the passage of the Federal Land Policy and Management Act (FLPMA) of 1976. South of Cajon Pass, the corridor route would enter the Los Angeles Basin, a highly dense urbanized area.

Waucoba Road Corridor

Location. From the California-Nevada border east of Bishop, California, the corridor route would parallel California State Highways 268 and 168, and the Waucoba Road which crosses the Inyo National Forest. The corridor route would then follow the RMPP, Central Nevada Alternative route in a southerly direction.

Description. The Waucoba Road corridor segment would parallel Nevada State Highway 268, and a portion of California State Highway 168 to the Waucoba Road. Neither one of these rights-of-way have had environmental assessment work completed; however, because the Aquatrain corridor route would parallel an existing road right-of-way, this corridor is classified as Category 3.

Physical Resources. The corridor route would parallel Fish Lake Valley in Nevada. In California, the corridor route would pass between the southern edge of the White Mountains and the northern edge of the Inyo Mountains.

Natural Resources. Because the corridor route would parallel existing road rights-of-way, there would be no major natural resource issues or concerns.

Land Use Plans and Concerns. The corridor route would cross the northern portion of the BLM-administered CDCA. California State Highway 168 and the Waucoba Road, crossing the CDCA, has not been designated as an energy and utility corridor and would, therefore, require a Plan Amendment. The Waucoba Road also crosses the Inyo National Forest.

Westguard Road Corridor

Location. From the California-Nevada border east of Bishop, California, the corridor route would parallel State Highways 268 and 168, and cross the Inyo National Forest. The corridor route would then follow the RMPP, Central Nevada Alternative route in a southerly direction.

Description. The Westguard Road corridor segment would parallel Nevada State Highway 268 and California State Highway 168 (Westguard Road). Neither one of these rights-of-way have had environmental assessment work completed; however, because the Aquatrain corridor route would parallel an existing road right-of-way, this corridor route is classified as Category 3.

Physical Resources. The corridor route would parallel Fish Lake Valley in Nevada. In California, the corridor route would pass between the northern edge of the White Mountains and the northern edge of the Inyo Mountains. The Westguard Road, crossing the Inyo National Forest, is within a scenic pass and canyon area for approximately 7 miles.

Natural Resources. Because the corridor route would parallel existing road rights-of-way, there would be no major natural resource issues or concerns.

Land Use Plans and Concerns. The corridor route would cross the northern portion of the BLM-administered CDCA. California State Highway 168 (Westguard Road), crossing the CDCA, has not been designated as an energy and utility corridor and would, therefore, require a Plan Amendment. The Westguard Road would also cross the Inyo National Forest through approximately 7 miles of a scenic canyon. There are also several Forest Service RARE II units adjacent to the Westguard Road.

Central Nevada--Oxnard Corridor

Location. This corridor route would parallel the RMPP, Central Nevada Alternative route, which basically parallels California State Highways 6 and 395 in a southerly direction through Owens Valley. At the southern edge of Owens Lake, the corridor route would be within the 2-mile wide Corridor A, as developed in the BLM CDCA Plan. Corridor A parallels State Highway 395 between the southern edge of Owens Lake to approximately 10 miles west of China Lake, California. From this point, Corridor A would parallel State Highway 14 in a southwesterly direction. The corridor route would continue in a west-southwesterly direction, paralleling State Highway 126 to the Port of Oxnard.

Description. This corridor route would be similar to the Central Nevada--Long Beach Corridor up to approximately 10 miles west of China Lake, California. This corridor route segment is classified as Category 1, due to being environmentally assessed in the RMPP EIS. From south of China Lake to Antelope Valley (at the boundary of the CDCA), Corridor A was environmentally assessed and designated as an energy and utility corridor in the CDCA Plan and EIS (September 1980). This corridor segment is also classified as Category 1. The portion of the corridor route paralleling California State Highways 14 and 126 is classified as Category 3, because the Aquatrain pipeline would parallel existing road rights-of-way that have not been environmentally assessed.

Physical Resources. South of China Lake, California, Corridor A would head southwesterly along Freemont and Antelope valleys. California State Highways 14 and 126 would also cross broad valley areas and rolling hills.

Natural Resources. Because the corridor route would parallel segments of routes already environmentally assessed which, for the most part, parallel existing road rights-of-way (i.e., California State Highways 395, 14, 126), no major natural resource issues or concerns would be anticipated. Nonetheless, several fault zones in southern California would be crossed, as would an orange grove along California State Highway 126.

Land Use Plans and Concerns. Corridor A would be within the Congressionally designated CDCA. Paralleling California State Highway 14, the corridor would encounter private land that is currently being subdivided for future development as part of the general northward expansion, from the San Fernando Valley. California State Highway 126 crosses orange groves. Aquatrain pipeline construction would have to minimize, as much as possible, impacts to orange grove operations in this area.

Gaviota Corridor

Location. From Corridor G, as identified in the CDCA Plan, approximately 10 miles west of Mojave, California, the corridor route would follow the proposed route of the All-American Pipeline Project to Taft, California (southwest of Bakersfield, California). From Taft, the corridor route would parallel Getty Oil Company's proposed oil pipeline route to the proposed port facility at Gaviota, California. This proposed oil pipeline route would head west, paralleling State Highway 166 through Cuyama Valley, then south crossing approximately 15 miles of the Los Padres National Forest, and paralleling in a southward direction State Highway 101 to Gaviota, California.

Description. The portion of the corridor route following the designated energy and utility Corridor G was environmentally assessed in the CDCA Plan and EIS (1980). Therefore, this portion of the corridor route is classified as Category 1, for purposes of this study. Because no environmental

assessment work has been completed between west of Mojave, California (outside the CDCA) to Gaviota, California, and basically parallels State highways, this corridor route segment is classified as Category 3.

Physical Resources. The corridor route would cross the Tehachapi Mountains (Tehachapi Pass) and proceed in a westerly direction south of Bakersfield, California. West of Taft, California, the corridor route would enter and parallel Cuyama Valley, cross the Sierra Madre Mountains (within the Los Padres National Forest), and head southward paralleling California State Highway 101 south to Gaviota, California.

Natural Resources. Because the corridor route follows a portion of Corridor G and basically parallels existing road rights-of-way to Gaviota, California, no major natural resource issues or concerns would be encountered. Nonetheless, several fault zones would need to be crossed as would the Tehachapi and Sierra Madre Mountains.

Land Use Issues and Concerns. Corridor G would be within the CDCA which was Congressionally designated in 1976 with the passage of the FLPMA. Additionally, approximately 15 miles of the corridor route would cross within the boundary of the Los Padres National Forest. RARE II units 114, 117, and 118 would need to be crossed within this National Forest.

Blythe--Long Beach Corridor

Location. From the proposed Blythe power plant, the corridor route would head in a westerly direction along the 2- to 4-mile wide designated energy and utility Corridor K as developed in the BLM CDCA Plan (September 1980). Corridor K generally parallels Interstate Highway 10 and concludes in the Banning-San Gorgonio Pass area. From this point, the corridor route would follow in a westerly direction the Sohio proposed corridor to the Port of Long Beach.

Description. The entire corridor route, from the Blythe proposed power plant site to Long Beach, is classified as Category 1, because of two EISs completed on portions of the corridor route. The CDCA Plan and EIS designated Corridor K as an energy and utility route. The portion of the corridor route west of the Banning-San Gorgonio Pass area to Long Beach, was assessed in the Sohio Pipeline Project EIS.

Physical Resources. Corridor K which parallels Interstate Highway 10 would cross the Chuckwalla and Coachella valleys. The Banning-Gorgonio areas along Interstate Highway 10 would be crossed. West of this area, the corridor route would follow the Sohio Pipeline Project proposed route within the coastal zone of the Los Angeles Basin.

Natural Resources. Because the corridor route basically parallels Interstate Highway 10 along Corridor K and the Sohio pipeline route, no major natural resource concerns or issues would be anticipated. Nonetheless, several fault zones would need to be crossed, including the San Andreas Fault near Banning-San Gorgonio Pass. Additionally, pipeline construction would need to mitigate for the desert tortoise within Corridor K. Cultural resource values are also known to be high along Corridor K.

Land Use Plans and Concerns. Corridor K is located within the CDCA which was Congressionally designated in 1976 with the passage of the FLPMA. The Morongo Indian Reservation, within the Banning-San Gorgonio Pass area, would need to be crossed. West of this area, the corridor route would enter the Los Angeles Basin. Pipeline construction would need to mitigate urban concerns and issues.

Blythe--Mexico Corridor

Location. From approximately 5 miles west of Blythe, California, the corridor route would head south, paralleling State Highway 78 within the 2-mile wide designated energy and utility Corridor J to approximately 5 miles west of Yuma, Arizona, at the California-Mexico border.

Description. Corridor J is classified as a Category 1, because it was designated as an energy and utility corridor and environmentally assessed in the CDCA Plan and accompanying EIS (September 1980).

Physical Resources. Corridor J basically parallels the Colorado River Basin from approximately 5 miles west of Blythe, California, to the Mexico border.

Natural Resources. No major natural resource concerns would be anticipated because the corridor route would be within the 2-mile wide designated corridor J.

Land Use Plans and Concerns. No major land use plans or concerns would be expected since Corridor J has been environmentally cleared for future utilities. However, the Imperial National Wildlife Refuge and Fort Yuma Indian Reservation, located east of Corridor J along the Colorado River, could pose secondary impact concerns based upon pipeline construction activity and labor work force pressures.

Ivanpah--Long Beach Corrider 1

Location. This corridor route would be within the designated energy and utility corridor BB as developed in the BLM CDCA Plan (September 1980). Corridor BB generally parallels Interstate Highway 15 between Ivanpah Dry Lake at the California-Nevada border to Yermo, California, and is 3 miles wide. From Yermo to south of Victorville, California, Corridor BB would tie into

Corridor D, as developed in the BLM CDCA plan, which also parallels Interstate Highway 15. From this point south of Victorville, the corridor route would parallel Interstate Highway 15 through Cajon Pass and intersect with Interstate Highway 10. At Interstate Highway 10, the corridor route would head westward following the Sohio proposed route to the Port of Long Beach.

Description. The entire length of the corridor route, from the Ivanpah proposed power plant to Long Beach, is classified as Category 1 for purposes of this study, because all route segments have either been designated as an energy and utility corridor through the land use planning process, or have had environmental assessment work completed. Both Corridors BB and D within the CDCA have been designated as energy and utility corridors and have been environmentally assessed in the CDCA Plan and EIS (September 1980). Interstate Highway 15 through Cajon Pass has been designated as an energy corridor by the San Bernardino National Forest. The portion of the corridor route paralleling Interstate Highway 10 was environmentally assessed in the Sohio Pipeline Project EIS (1976).

Physical Resources. Corridor BB generally parallels Interstate Highway 15 across the California Desert. The corridor, for the most part, follows a constant level grade with the exception of Mountain Pass, west of Ivanpah Dry Lake. Corridor D, south of Interstate Highway 15, also follows a constant level grade. The corridor route segment would travel through Cajon Pass, and on into the Los Angeles Basin within the coastal zone to Long Beach.

Natural Resources. Because the entire length of the corridor route generally parallels Interstate Highways 15 and 10, no major natural resource concerns or issues would be anticipated. Nonetheless, Corridors BB and D would cross desert tortoise habitat. Again, both corridors have been environmentally assessed. The portion of the corridor route crossing Cajon Pass to Interstate Highway 10 would cross several active fault zones, the most noteable of which is the San Andreas Fault.

Land Use Plans and Concerns. Both Corridors BB and D would be within the CDCA which has been Congressionally designated in 1976 with the passage of the FLPMA. The corridor route segment following the proposed route of the Sohio Pipeline Project would be within the densely populated, urbanized area of the Los Angeles Basin. This would require close consultation and coordination with county and local planning offices in this area.

Ivanpah--Long Beach Corridor 2

Location. This corridor route would be similar to the Ivanpah--Long Beach Corridor 1, with the exception of the segment between Ivanpah Dry Lake at the California-Nevada border and Yermo, California. This segment would be within the designated energy and utility Corridor D, as developed by the BLM CDCA Plan (September 1980). Corridor D generally parallels Corridor BB in a southwesterly direction, but is approximately 10 miles north of Corridor BB.

Description. The entire length of the corridor route, from the Ivanpah proposed power plant to Long Beach, is classified as a Category 1 for puposes of this study, because all route segments have either been designated as an energy and utility corridor through the land area planning process, or have had environmental assessment work completed. The description of the corridor route as it relates to Category 1, 2, or 3 would be similar to the Ivanpah--Long Beach Corridor 1, with the exception of following Corridor D from the proposed power plant to Yermo, California, instead of Corridor BB.

Physical Resources. Corridor D between the Ivanpah proposed power plant site to Yermo, California, would be approximately 6 miles to the north of Corridor BB (which is replaced by this segment) and follow similar level grade terrain across the California Desert. For the remaining portion of the corridor route, please refer to the Ivanpah--Long Beach Corridor 1 analysis.

Natural Resources. Refer to Ivanpah--Long Beach Corridor 1 for a similar analysis of natural resource and land use plan concerns.

Corridor G

Location. This corridor route would be within the designated energy and utility Corridor G, as developed in the BLM CDCA Plan (September 1980). Corridor G is a major east-west corridor route across the Mojave Desert. Starting at the California-Nevada border approximately 10 miles south of Needles, California, the 2-mile wide corridor heads westward and south of Interstate Highway 40. At Ludlow, California, the corridor continues westward, paralleling Interstate Highway 40, passing Barstow, California, and paralleling State Highway 58 to Mojave, California.

Description. The entire length of the corridor route, from the California-Nevada border approximately 10 miles south of Needles, California, to west of Mojave, California, is classified as Category 1 for purposes of this Corridor Study, because it has been designated as an energy and utility corridor in the CDCA Plan and EIS (September 1980).

Physical Resources. Corridor G generally would cross several dry lake beds and valley desert terrain while avoiding main mountain ranges in the California Desert.

Natural Resources. No major natural resource concerns or issues would be anticipated, because the 2-mile wide corridor has been environmentally cleared through its designation as a energy and utility corridor. The corridor route would cross desert tortoise habitat and be in the vicinity of known cultural resource areas.

Land Use Plans and Concerns. Corridor G would be within the CDCA which was Congressionally designated in 1976 with the passage of the FLPMA.

Corridor H

Location. This corridor route would be within the designated energy and utility Corridor H, as developed in the BLM CDCA Plan (September 1980). Corridor H basically starts near Essex, California, and parallels an unnamed San Bernardino County road westward passing by the towns of Amboy, Bagdad, and Ludlow, California. From Ludlow, the corridor would parallel Interstate Highway 40 in a westerly direction and then southwesterly, pass Redman Mountain and Lucern Valley, to the Cajon Summit area. The corridor is 2 miles wide and is generally an alternative to Corridor G between Essex and Ludlow.

Description. The entire length of the corridor route, from near Essex, California, to the Cajon Summit area, is classified as Category 1 for purposes of this study, because it has been designated as an energy and utility corridor in the CDCA Plan and EIS.

Physical Resources. Corridor H would generally cross rolling desert terrain and several valley areas.

Natural Resources. No major natural resource concerns or issues would be anticipated because the 2-mile wide corridor has been environmentally cleared through the designation as an energy and utility corridor. The corridor route would cross desert tortoise habitat and be in the vicinity of known cultural resource areas.

Land Use Plans and Concerns. Corridor H would be entirely within the CDCA which has been Congressionally designated in 1976 with the passage of the FLMPA.

Highway 95--Corridor J

Location. From the California-Nevada border northwest of Needles, California, State Highway 95 heads in a southerly direction between the Whipple and Turtle Mountains to Vidal Valley west of the Parker Dam. Approximately 5 miles west of the Parker Dam, State Highway 95 intersects with the designated energy and utility Corridor J, as developed in the BLM CDCA Plan (September 1980). Corridor J also heads in a southerly direction to Blythe, California.

Description. The corridor route segment which would parallel California State Highway 95 is classified as Category 3. This route segment has not been environmentally assessed; however, the Aquatrain pipeline could parallel this existing road right-of-way. Corridor J is classified as Category 1 because it has been designated as an energy and utility corridor in the CDCA Plan and EIS.

Physical Resources. California State Highway 95 traverses in a north-south direction within portions of Chemehuev and Vidal valleys. The corridor route segment is abutted by the Turtle Mountains to the west and the Whipple Mountains to the east. South of Vidal Junction, Corridor J, which is 2 miles wide, would basically parallel the Colorado River Basin in a north-south direction to the proposed site for the Blythe power plant.

Natural Resources. The corridor route would be within the desert tortoise habitat. Cultural resource values are also known to be high, especially in the Chemehuev Valley and near Blythe, California. Cultural resource values are of national significance east of the corridor route (i.e., Intaglios). Corridor J has been environmentally cleared through its designation as an energy and utility corridor. Environmental clearance would be needed for that portion of the corridor route parallelling California State Highway 95.

Land Use Plans and Concerns. Both California State Highway 95 and Corridor J would be within the CDCA which has been Congressionally designated in 1976 with the passage of the FLPMA. The annual "Parker 400" off-road vehicle (ORV) event crosses California State Highway 95 at two points along the corridor route. This ORV annual event is estimated to attract up to 16,000 spectators.

Corridor E

Location. This corridor route would be within the designated energy and utility Corridor E, as developed in the BLM CDCA Plan (September 1980). Corridor E generally heads in a southerly direction from the California-Nevada border approximately 5 miles west of State Highway 95, through Ward Valley, approximately 10 miles west of State Highway 177, and intersecting with Interstate Highway 10 south of the National Park Service's Joshua Tree National Monument.

Description. The entire length of the corridor route, from generally the California-Nevada border to the intersection with Interstate Highway 10 south of the Joshua Tree National Monument, is classified as Category 1 for purposes of this study, because it has been designated as an energy and utility corridor in the CDCA Plan and EIS (September 1980).

Physical Resources. Corridor E would generally head in a northwesterly direction within the broad confines of Ward Valley. The valley is abutted by the Old Woman Mountains to the west and the Turtle Mountains to the east.

Natural Resources. No major natural resource concerns or issues would be anticipated, because the 3-mile wide corridor has been environmentally cleared through its designation as an energy and utility corridor. The corridor route would cross desert tortoise habitat and be in the vicinity of known cultural resource areas.

Land Use Plans and Concerns. Corridor E would be within the CDCA which has been Congressionally designated in 1976 with the passage of the FLPMA.

CHAPTER 3
PHASE II RESULTS

Chapter 3
Phase II Results

Introduction

Phase II of this Corridor Study contains a two-part analysis: a conceptual analysis and a site-specific analysis.

The main objective of Section 3.1., Conceptual Corridor Analyses, is to identify corridors which lie between input and output points (coal sources, saline water sources, power plant sites, and potential port facilities). The analysis of these corridors was divided into two categories: (1) corridors recommended for further consideration for EIS scoping; and (2) corridors eliminated from further consideration. Rationale for recommending or eliminating each corridor segment between input and output points is provided. Tables 3-1 and 3-2 provide a detailed matrix of the corridors that were analyzed in the conceptual analysis. Only the corridors or corridor segments that were inventoried in Phase I of this Corridor Study are analyzed in this phase.

Because of urbanization and land use concerns, as well as environmental and political sensitivities, this Corridor Study identifies six corridor segments that cross through the Las Vegas-Henderson area and are being recommended for further consideration for EIS scoping. These six corridor segments are identified in Phase I, Section 2.2.5 of this Corridor Study. Refer to the following for locations of these six corridors:

Corridor	Map	Route
Rocky Mountain Pipeline Corridor	27 and 28	N-17 to N-18
East Las Vegas Variation	27 and 28	N-17 to N-20 via N-19
West Las Vegas Corridor	27 and 28	N-27 to N-28
Najavo-McCullough Corridor	27	N-21 and N-22
IPP Corridor	27	N-23 and N-24
Allen--El Dorado Corridor	27	N-25 to N-26

The main objective of Section 3.2, Site-Specific Corridor Analyses, is to analyze five corridors located between Price and Castle Dale, Utah, that cross the Manti Top to the IPP power plant (refer to Maps 12, 13, and 19). These five corridors are: (1) Soldier Creek Corridor; (2) Mountain Fuels Pipeline Corridor; (3) Ephraim Corridor; (4) Interstate 70/Leamington Pass Corridor; and (5) Interstate 70/Scipio Pass Corridor. Table 3-1 provides a comparison of these corridors based on engineering and environmental screening criteria.

3.1 CONCEPTUAL CORRIDOR ANALYSES

3.1.1 Big Sandy Saline Water Source to Jim Bridger Power Plant

RECOMMENDED CORRIDORS

There is basically one route for the saline water pipeline between the Big Sandy area and the Jim Bridger power plant in Wyoming:

> Generally a straight line route from the Big Bend area, southeast to the Jim Bridger power plant, a distance of about 44 miles across rolling sagebrush hills. This route offers the most direct route between the two points.

ELIMINATED CORRIDORS

No other routes were considered in this area.

3.1.2 East Dry Basin CO_2 Gas Source to Axial Basin Coal Source

RECOMMENDED CORRIDORS

There is basically one route for the CO_2 gas between the East Dry Basin source in Wyoming and the mine site in the Axial Basin of Colorado:

> Beginning at the American Quasar and Exxon CO_2 gas pipeline tie-in point located southwest of Rock Springs, Wyoming, follow the existing Mountain Fuels Natural Gas Pipeline right-of-way southeast to Power Wash, Colorado, where it would then follow the proposed saline water pipeline route to the Axial Basin coal source. There are no major environmental problems along this proposed route.

ELIMINATED CORRIDORS

There are two alternative routes that were eliminated from further consideration. These routes are as follows:

Corridor	Reason(s) Not Recommended in Phase II
Mountain Fuels Natural Gas Pipeline--Highway 430 Corridor	Not a direct route to the coal source and because of several environmental and political problems encountered along the Irish Canyon portion of the route.
Mountain Fuels Natural Gas Pipeline--Kinney Rim Corridor	The existing Mountain Fuels Gas Pipeline right-of-way is already established and offers a more direct route to the coal source.

3.1.3 Jim Bridger Power Plant to Axial Basin Coal Source

RECOMMENDED CORRIDORS

There are two primary routes from the Jim Bridger Power Plant in Wyoming to the coal mine site in the Axial Basin of Colorado:

1. South from Jim Bridger along a county road through Black Buttes to Alkali Wash, along Kinney Rim and south along Alkali Creek into Colorado (Maps 3, 8, and 9; W1 to CO2 via W2). Continue southeast along Moffat County Road 13 to the Little Snake River road (Moffat County Road 27), continue south along County Road 27 to its intersection with Moffat County Road 28, continue south on 28 to Maybell, Colorado, trend southward on Moffat County 12 to its intersection with an unnumbered county road along the Danforth Hills to the mine site near Axial, Colorado.

2. South from Jim Bridger to the Interstate 80 corridor, then east along Interstate Highway 80 to the Snell Creek Road, south along this road to Powder Wash, Colorado, to Moffat County Road 13, then follow Road 13 and other Moffat County roads into Axial Basin, as detailed in 1 above (Maps 3, 8, and 9; W1 to W3 via W2 to CO2).

Both of these routes would parallel existing county road rights-of-way through rolling sagebrush hills and a small amount of hilly, mountain browse areas. There are no major environmental or engineering concerns along either of these two routes.

ELIMINATED CORRIDORS

Corridor	Reason(s) Not Recommended in Phase II
Interstate 80--Highway 430 Corridor	Did not offer a direct route; longer than others; passed through Irish Canyon which is politically and environmentally sensitive.
Interstate 80--Dad Cutoff Corridor	Much longer than other routes; did not offer a direct route to the Axial Basin; severe engineering problems in the Williams Fork Canyon near Hamilton, Colorado.
Little Snake--Yampa River--Price Creek Corridor	Much longer than other routes; did not offer a direct route to the Axial Basin; passed near the politically sensitive Cross Mountain WSA and the proposed Cross Mountain Dam; also potential engineering problems going through the Little Snake River Canyon.

3.1.4 Axial Basin Coal Source to Rifle Load-Out Facility

RECOMMENDED CORRIDORS

Between the coal source in the Axial Basin and the load-out facility at Rifle, Colorado, there are basically two routes:

1. From the mine site, follow Moffat County Road 51 southeast to its intersection with Colorado Highway 789 then continue southeast until the route intersects Rio Blanco County Road 10 (Yellow Jacket Pass Road). Continue along County Road 10 to its intersection with Colorado Highway 789, and then parallel 789 to the Rifle load-out facility (Maps 9 and 10; CO2 to CO8 via CO4 and CO6). There are no major environmental problems along this route, but there may be political problems with establishing another utility corridor along Highway 789 south of Meeker to Rifle.

2. From the mine site, follow the previous route until reaching Meeker, Colorado, then continue south along the Flag Creek Road (Rio Blanco County Roads 6 and 1, and Garfield County Road 252) to the town of Rio Blanco, then south along Highway 789 (Maps 9 and 10; CO2 to CO8 via CO4, CO5, and CO7). There are no major environmental problems along this route, and the route <u>may</u> be politically more acceptable to persons in Rio Blanco County.

ELIMINATED CORRIDORS

<u>Corridor</u>	<u>Reason(s) Not Recommended in Phase II</u>
Nine-Mile Route (Map 9; CO2 to CO5 via CO3)	Because of severe environmental problems along the entire right-of-way (i.e., surface water, slumping soils, riparian zones).

3.1.5 Dotsero Springs--Glenwood Saline Water Source to Rifle Load-Out Facility

RECOMMENDED CORRIDORS

Between the Dotsero Springs saline water source near the Eagle/Garfield County line and the Rifle load-out facility, there are basically only two possible corridor routes and one route variation. These two potential routes and the variation are as follows:

1. Beginning at the site of the Dotsero Springs near the Eagle-Garfield county line, immediately adjacent to Interstate Highway 70 and the Colorado River, the route would trend west along the Interstate Highway 70 corridor through Glenwood Canyon and on to Rifle, Colorado, a distance of about 38 miles (Map 10; CO9 to CO8).

There are no major engineering problems with this proposed route through the Glenwood Canyon portion of the route. There are existing sections of Interstate Highway 70 already constructed at both ends of the Canyon and it may be too late to design the pipeline into the final section in the Canyon. There are no major environmental problems associated with this route.

2. Beginning at the site of the Dotsero Springs near the Eagle-Garfield county line, immediately adjacent to Interstate 70 and the Colorado River, the route would trend east along the Interstate 70 corridor to Gypsum, Colorado, where it would turn south along Eagle County Road 10-A and follow this road over Cottonwood Pass, down Cattle Creek (Garfield County Road 107) to its junction with Colorado State Highway 64. At this point, the route would cross the Roaring Fork River and travel north to the Interstate 70 corridor west of Glenwood Springs (crossing the Colorado River near Funston). From this point, the route would follow the Interstate 70 corridor west to the Rifle load-out facility (Map 10; C09 to C08 via C010 and C011).

   This route would have some construction problems near the top of Cottonwood Pass because of slumping soils. Additionally, there would be two major river crossings involved with this route (the Roaring Fork and the Colorado rivers). There are excellent environmental and engineering EIS documents available for this route as the Cottonwood Pass route was assessed as an alternate to the Interstate 70 route through Glenwood Canyon. This route was selected as the only alternative to the Glenwood Canyon route.

   The route variation would start at the site of the Dotsero Springs near the Eagle-Garfield county line and head directly southeast along the Cottonwood Creek drainage to its intersection with the Cottonwood Pass road (Eagle County Road 10-A), about 9 miles southwest of Gypsum, Colorado (Map 10; C09 to C08 via C011). There are no apparent environmental or engineering problems with this proposed route. Additionally, this route variation would be approximately 9 miles shorter than the Gypsum-Cottonwood Pass Route.

ELIMINATED CORRIDORS

No other routes were considered in this area.

3.1.6 Rifle Load-Out Facility to Price--San Rafael Coal and Saline Water Source

RECOMMENDED CORRIDORS

One primary corridor route is located between the Rifle load-out facility and the San Rafael coal and saline water source, and it contains a number of corridor variations for segments of the route. The route is essentially based along Interstate 70 between the two points.

There is one corridor route and two variations for the segment between the Rifle load-out facility and the Colorado-Utah state line:

The proposed route would follow the Interstate Highway 70 corridor west from Rifle, Colorado, to the Colorado-Utah state line, a distance of about 83 miles (Maps 10 and 11; C08 to C016 via C012 and C014). This corridor offers the most direct route between the two points and has an existing highway corridor.

a. This variation would follow the Interstate 70 corridor west from Rifle, Colorado, to De Beque, Colorado, (about 38 miles). The route would then trend almost west up Roan Creek on Garfield County Road 109, then continue west up the Dry Fork of Roan Creek on Garfield County Road 200, then along the McKay Fork on Garfield County Road 232. The route would cross over the top and head west down Coal Gulch to Big Salt Wash and then south along Mesa County Road 116 to the Highline Canal, then travel west and south across country to intersect the Interstate 70 corridor west of Mack, Colorado, and then follow Interstate 70 to the Colorado-Utah state line (Maps 10 and 11; C08 to C016 via C012 and C015). This route was selected because it offered an alternative to De Beque Canyon.

b. This variation route would trend south out of Rifle, Colorado, on Garfield County Road 330 to the head of Mamm Creek, then continue west along Buzzard Creek on Mesa County Road 82, then westerly along Mesa County Road 303 to Collbran, then westerly along Mesa County Road 330 to its intersection with State Highway 65 to the head of Big Beaver Creek. The route would head southwest across country to Whitewater Creek, down Whitewater Creek to the U.S. Highway 50 corridor. The route would then trend northwest along Highway 50 to its intersection with Interstate 70 west of Grand Junction, Colorado, and then west to the Colorado-Utah state line. This variation was selected because it offered an alternative to De Beque Canyon.

Between the Colorado-Utah border and Green River, Utah, there is essentially one corridor route segment, as follows:

This corridor route segment (Maps 11, 12, 19, and 20; C016 to U1) parallels the interstate highway and is generally along a route identified in the BLM Grand Resource Area Management Plan EIS as having identified utility corridors. This is the only route chosen for further study because it is the only route identified in the land use plan.

Between Green River and the Price-San Rafael Coal and Saline Water Source, three corridor segments would be available. These route segments are as follows:

1. Paralleling U.S. Highway 6 and the Denver and Rio Grande West Railroad (Maps 12 and 19; U1 to U3 via U2). It was selected because it is a direct route through gentle terrain with good access.

2. Paralleling a 345-kV transmission line from Green River to Huntington then following a portion of the Castle Valley corridor north to the coal and saline water source (Maps 12 and 19; U1 to U3 via U4). It is a fairly direct route reasonably unconstricted from natural constraints.

3. Paralleling Interstate Highway 70 through the San Rafael Swell to State Highway 10, then northward along the Castle Valley utility corridor to the coal and water source (Maps 12 and 19; U1 to U4 via U5 and U6). The route is being studied further to accommodate routing between the Rifle load-out facility and the IPP plant, with a spur to the Price--San Rafael coal and saline water source.

All three of these corridor route segments would parallel existing transportation routes through generally open, gently rolling landscapes. No major environmental or land use planning concerns would conflict with these corridor route segments.

ELIMINATED CORRIDORS

No corridor routes were eliminated from further consideration during this phase of the corridor study, since no other corridor routes were considered.

3.1.7 Price--San Rafael Coal and Saline Water Source to Hunter Power Plant

RECOMMENDED CORRIDORS

One primary corridor route is located between the Price-San Rafael coal and saline water source and the Hunter power plant. No variations to the corridor were analyzed because of the many existing and proposed transportation system routes being concentrated within the same general area. The route is as follows:

The Castle Valley corridor route (Map 12; U3 to U6 via U4) essentially parallels State Highway 10 between the two points along the western portion of the Castle Valley. The corridor route would be located in a generally open, gently rolling landscape. No major environmental or land use planning concerns would conflict with this corridor route.

ELIMINATED CORRIDORS

No corridor routes were eliminated from further consideration during this phase of the corridor study, since no other corridor routes were considered.

3.1.8 IPP Power Plant to White Pine Proposed Power Plant Site 1

RECOMMENDED CORRIDORS

One primary corridor route is located between the IPP power plant and the proposed White Pine power plant site 1, which is as follows:

> Paralleling a route originally studied as a potential transmission line location for the IPP Lynndyl alternative site west from the IPP plant, across the Utah-Nevada border, intersecting and paralleling State Highway 2 near its intersection with State Highway 93. It then parallels State Highway 93 north to the proposed White Pine plant site 1 (Maps 13 and 14; U11 to N1 via N5 and N2). The BLM personnel recommended this route because few, if any, resource conflicts or constraints are associated with the route.

ELIMINATED CORRIDORS

No corridor routes were eliminated from further consideration during this phase of the corridor study, since no other corridor routes were considered.

3.1.9 IPP Power Plant to White Pine Proposed Power Plant Site 2

RECOMMENDED CORRIDORS

One primary corridor route is located between the IPP power plant and the proposed White Pine power plant 2, which is as follows (Maps 13, 14, and 17; U11 to N7 via N3, N4, and N6):

> Paralleling the corridor route segment proposed as an IPP transmission line route between the IPP power plant, and linking with an existing Sigard-Gonder transmission line to the Utah-Nevada state border; paralleling the Rocky Mountain Pipeline Project (RMPP), Central Nevada Alternative, and U.S. Highway 6 from the Utah-Nevada border to the intersection with State Highway 93; then paralleling State Highway 93 from the RMPP, Central Nevada Alternative, north to the proposed White Pine plant site 2.

No land use planning constraints nor major environmental conflicts are anticipated if the WSAs in western Utah are avoided.

ELIMINATED CORRIDORS

Corridor	Reason(s) Not Recommended in Phase II
Paralleling proposed RMPP, West Salt Lake Alternative, south from the IPP plant to a point where it would intersect with the RMPP, Central Nevada Alternative, to the Utah-Nevada state border	The route was eliminated from further consideration because it appears to be a longer route through similar terrain and resource conditions.
Paralleling Mount Weaver transmission line portion of the IPP power project where it deviates from the RMPP, Central Nevada Alternative, between the state border and the White Pine plant site 3 proposed location	The route was eliminated because the corridor route segment being recommended (RMPP) has been previously assessed for a pipeline route and it parallels a state highway for construction access.

3.1.10 IPP Power Plant to White Pine Proposed Power Plant Site 3

RECOMMENDED CORRIDORS

One primary corridor route is located between the IPP power plant and the proposed White Pine power plant 3, which is as follows (Maps 13, 14, and 17; U11 to N10):

> Paralleling the corridor route segment proposed as an IPP transmission line route between the IPP power plant, and linking with an existing Sigard-Gonder transmission line to the Utah-Nevada state border; paralleling the Rocky Mountain Pipeline Project (RMPP), Central Nevada Alternative, and U.S. Highway 6 from the Utah-Nevada border to the White Pine proposed power plant site 3.

This route was chosen because all portions have been assessed for environmental effects. No land use planning concerns or major environmental conflicts are anticipated if the WSAs in western Utah are avoided.

ELIMINATED CORRIDORS

Corridor	Reason(s) Not Recommended in Phase II
Paralleling the proposed RMPP, West Salt Lake Alternative, south from the IPP plant to a point where it would intersect the RMPP, Central Nevada Alternative. Paralleling the Central Nevada Alternative to the Utah-Nevada state border	The route appears to be a longer route through similar terrain and resource conditions than the routes being further studied.
Paralleling Mount Weaver transmission line portion of the IPP power plant where it deviates from the RMPP, Central Nevada Alternative between the state border and the White Pine plant site 3.	The corridor route segment being recommended (RMPP) was previously assessed for a pipeline route and it parallels a state highway for construction access where this route has not been assessed for a pipeline.

3.1.11 IPP Power Plant to Harry Allen Proposed Power Plant

RECOMMENDED CORRIDORS

One primary corridor route is located between the IPP power plant and the proposed Harry Allen power plant, with two corridor route variations for a portion of the route. The corridor route is essentially based along corridor routes proposed by the Rocky Mountain Pipeline Project (RMPP).

Between the IPP power plant and a point east of Delta, Utah, only one corridor route segment exists, as follows (Map 13; U11 to U16):

> Paralleling the RMPP, West Salt Lake Alternative to a point to the south where the RMPP, Sevier-Escalante Desert Alternative begins.

The corridor route appears to be compatable with land use planning. No major environmental constraints exist within the corridor route.

The two corridor route segments from the point on the primary route east of Delta to Newcastle, Utah, are as follows:

a. Paralleling the RMPP, Sevier-Escalante Desert Alternative route from Delta to Newcastle (Maps 13, 18, and 21; U16 to U18 via U17).

b. Paralleling the RMPP, West Salt Lake Alternative from Delta to the RMPP, proposed action corridor route from near Holden, Utah, to Newcastle (Maps 18 and 21; U16 to U18 via U19).

Both of these corridor route segments would parallel proposed pipeline corridor alignments through a broad valley. No major environmental concerns or land use constraints would conflict with these corridor route segments.

Between Newcastle and the Harry Allen power plant, only one basic corridor route exists, as follows:

> Paralleling the RMPP, Proposed Action route segment between Newcastle and the Harry Allen power plant (Maps 21, 22 and 27; U18 to N15).

The corridor route would follow the planned RMPP corridor route and would not encounter any conflicts with land use plans if it were included in the probable corridor through the Dixie National Forest and the 3,000-foot wide corridor through the Moapa Indian Reservation. The only major environmental concern would be crossing desert tortoise habitat.

ELIMINATED CORRIDORS

No corridor routes were eliminated from further consideration during this phase of the corridor study, since no other corridor routes were considered.

3.1.12 Sage, Wyoming, to Harry Allen Proposed Power Plant

RECOMMENDED CORRIDORS

One primary corridor route is located between the Southwest Wyoming region and the Harry Allen proposed power plant in Nevada. The corridor route would be used to transport resources directly between these and intermediate points. The route is essentially based along the Rocky Mountain Pipeline Project (RMPP), BLM Preferred Action, as follows:

> Paralleling the corridor route proposed as the agency preferred alternative for RMPP, which is based on the proposed action but includes the West Kamas Valley Variation, Mill Creek Variation, and the Daniels Canyon Variation II. The route extends between Sage, Wyoming, and the Harry Allen proposed power plant (Maps 4, 7, 12, 13, 18, 21, 22, and 27; W6 to N15 via U10).

No land use planning constraints are anticipated if the RMPP, preferred action were to be paralleled by the project, unless RMPP were constructed prior to the Aquatrain Project. In such a case, portions of limited corridors may become restricted or unusable, such as the corridor route segment between U.S. Highway 6 and Indianola, Utah, or the Salt Creek Canyon east of Nephi, Utah. Additionally, it is presently uncertain whether the Manti-LaSal National Forest will designate a corridor across the forest between U.S. Highway 6 and Indianola. The only major environmental constraints presently of concern are the soil stability problem within a zone near U.S. Highway 6 (Thistle slide area, as an example) and the desert tortoise and its critical habitat in extreme southwest Utah.

ELIMINATED CORRIDORS

Corridor	Reason(s) Not Recommended in Phase II
Paralleling the RMPP, West Salt Lake Alternative, from its origin in Idaho, around the west side of Salt Lake to the IPP power plant	Soils and construction concerns along the western portion of the route, as well as the additional length over that of the RMPP, preferred action.
Paralleling the RMPP, Sevier-Escalante Desert Alternative in it entirety from its origin near Indianola, Utah, to where it would rejoin the RMPP, preferred action, west of Cedar City, Utah	Additional length over the RMPP, preferred action, and the availability of a route previously endorsed by federal agency land managers (RMPP, preferred action).
Paralleling the IPP transmission line corridor route segment from the Paragonah Substation (20 miles northeast of Cedar City), paralleling Interstate Highway 15 to the Harry Allen proposed power plant	Would duplicate a corridor previously assessed and found suitable as a pipeline route through more favorable terrain and less environmentally constrained areas (RMPP, proposed action).

3.1.13 White Pine Proposed Power Plant Sites 1, 2, and 3 to Potential Export Sites at Los Angeles and Long Beach, Oxnard, and Gaviota

RECOMMENDED CORRIDORS

From the three potential site locations for the White Pine power plant, there is basically one corridor route to the south shore of Owens Lake:

> Follow the Rocky Mountain Pipeline Project, Central Nevada Alternative route which basically parallels Nevada State Highway 50 across central Nevada, to California State Highway 395 through Owens Valley to the southern shore of Owens Lake. Refer to Section 2.2.4, Central Nevada Corridor, for those corridor segments that would deviate from the Central Nevada Alternative route (Maps 14, 16, 17, 24, and 25; N6 to CA2 via N3, N4, and N6).

This corridor segment would basically follow a major portion of an EIS assessed route (Rocky Mountain Pipeline Project--Central Nevada Alternative route). The corridor segment also parallels, for the most part, road rights-of-way which would minimize the amount of environmental impacts.

South of Owens Lake, the corridor would separate into three segments extending to each of the three potential export sites:

1. From the southern shore area of Owens Lake to the port areas of Los Angeles and Long Beach, follow designated energy and utility corridor A as identified in the California Desert Conservation Area Plan (CDCA) and accompanying EIS. The corridor segment would follow southward the 2-mile wide designated corridor to west of China Lake, California, where the corridor segment would parallel California State Highway 395 and intersect with Interstate Highway 15 near Victorville, California. From Victorville, the corridor segment would continue southward paralleling Interstate 15 through Cajon Pass and merge with the proposed route of the Sohio Pipeline Project and on into the Port of Long Beach (Maps 25, 26, 29, 33, 34, and 38; CA2 to CA6 via CA3, CA4, and CA5).

   This corridor would follow route segments that follow designated energy and utility corridors, and parallel road right-of-way and portions of corridor routes assessed in EISs. The corridor segment that would follow a portion of designated energy and utility corridor A was assessed in the CDCA Plan and accompanying EIS (September 1980). The portion of the corridor route that would parallel California State Highway 395, west of China Lake, California, to the intersection with Interstate 15 is not a designated energy and utility corridor in the CDCA Plan. This corridor segment would require a Plan Amendment for purposes of the Aquatrain Pipeline to parallel California State Highway 395. The corridor route segment paralleling Interstate 15 through Cajon Pass has been designated as an energy and utility corridor by the San Bernardino National Forest. The corridor route segment that would follow the Sohio proposed pipeline route to the Port of Long Beach was assessed in the Sohio Pipeline Project EIS (1976).

2. From the southern shore area of Owens Lake to the port areas of Oxnard, follow designated energy and utility corridor A as identified in the CDCA Plan and accompanying EIS (September 1980). Outside the CDCA, the corridor would parallel California State Highways 14 and 126 to Oxnard (Maps 29, 30, and 33; CA3 to CA13 via CA7 and CA12).

   This corridor is being recommended for further consideration of EIS scoping, because it would follow route segments that have been designated as energy and utility corridors, and parallel existing road rights-of-way. Designated energy and utility corridor A was environmentally assessed in the CDCA Plan and EIS (September 1980). The portion of the corridor paralleling State Highways 14 and 126, outside the CDCA, to Oxnard would cross rolling hills and broad valleys. Environmental impacts would be minimized; however, State Highway 126 does cross orange groves for approximately 7 miles. Pipeline construction activity in this area would need to take into consideration orange grove operators' concerns.

3. From the southern shore area of Owens Lake to Gaviota, California, follow designated energy and utility corridor A as identified in the CDCA Plan and accompanying EIS (September 1980). Corridor A would head southward and merge with corridor G in a westward direction. Outside the CDCA, the corridor would follow the proposed pipeline route for the All-American Pipeline Project to Taft, California. From Taft, the corridor would follow Getty Oil Company's proposed pipeline route to Gaviota, California (Maps 25, 26, 29, 30, 31, 32, and 33; CA2 to CA8 via CA3 and CA7).

This corridor route would basically follow route segments that have been designated as energy and utility corridors, and proposed pipeline routes which are anticipated to have EIS assessment work completed within the next 2 to 3 years. Designated energy and utility corridors A and G were environmentally assessed in the CDCA Plan and accompanying EIS. The portion of the corridor route between west Mojave (outside the CDCA) and Gaviota, California, would follow proposed pipeline corridors which are expected to be environmentally assessed in two separate EISs within the next 2 to 3 years (All-American Pipeline Project and Getty Oil Company Pipeline Project).

ELIMINATED CORRIDORS

Corridor	Reason(s) Not Recommended in Phase II
BLM Ely District (Egan Resource Area) Planned Corridor 1	White Pine proposed corridor from potential plant site 2 to BLM planned corridor 2 would merge with the Humboldt National Forest Planned Corridor to avoid Currant Summit and Canyon area.
Westguard Road crossing the Inyo National Forest	Rocky Mountain Pipeline Project--Central Nevada Alternative route provides an EIS assessed route of equal distance. Also, the Westguard Road would enter the northern portion of the CDCA requiring a Plan Amendment.
Waucoba Road crossing the Inyo National Forest	Same reasons as identified for the Westguard Road.

3.1.14 White Pine Proposed Power Plant Sites 1, 2, and 3 to Harry Allen Proposed Power Plant Site

RECOMMENDED CORRIDORS

Between the White Pine Proposed Power Plant Sites 1, 2, and 3 to the Harry Allen proposed power plant, there are basically three (2 primary, 1 alternative) corridor routes.

There are two corridor route segments extending from the White Pine proposed power plant site 1 to State Highway 50.

a. Paralleling State Highway 93 to BLM Planned Corridor 2 to the Humboldt National Forest planned corridor to State Highway 50 along Steptoe Valley (Map 14; N1 to N3 via N2).

b. Paralleling State Highway 93 to State Highway 2 to State Highway 893 along Spring Valley (Map 14; N1 to N6 via N2 and N5).

Both of these corridor segments would parallel existing road rights-of-way and planned corridors through broad valleys. No major environmental concerns would conflict with these corridor segments.

From State Highway 50, the segments would continue and extend to the intersection of State Highways 38 and 93 (south of the Pahranagat Nation Wildlife Refuge).

c. Paralleling the Humboldt National Forest planned corridor to State Highway 38 to its intersection with State Highway 93 (Maps 14, 17, and 22; N4 to N9 via N8).

d. Paralleling State Highway 93 south (passing by the White Pine Proposed Power Plant Site 3) to the intersection with State Highway 38 (Maps 14, 17, and 22; N10 to N13 via N11 and N12).

Both of these corridor route segments would parallel existing road rights-of-way. Both State Highways 38 and 93 are also designated utility and energy corridors in the BLM Schell Resource Area Management Framework Plan (Ely District) and cross broad north-south spanning valleys (White River and Pahranagat Valley; and Lake, Dry, and Delamar valleys). Each corridor route segment would cross either Pahranagat and Delamar valleys which are areas identified as having agricultural potential. However, these two agricultural valleys would not be considered major obstacles to cross with careful consideration given to local concerns during pipeline construction. A portion of the corridor route segment would parallel State Highway 38 through the Pahranagat National Wildlife Refuge.

An alternative segment that would avoid Delamar Valley would be as follows:

e. From Caliente, the corridor segment would parallel the Union Pacific Railroad right-of-way, and Lincoln County maintained roads 4230 and 4299 through Meadow Valley Wash. Near Moapa, Nevada, the corridor route segment would intersect with the Allen-Warner Valley EIS route

to the Harry Allen proposed power plant site (Maps 22 and 27; N11 to N15 via N14).

This corridor segment provides an alternative for avoiding the Delamar Valley area and its agricultural values. The corridor route segment would parallel an existing roadway and railroad rights-of-way through the Meadow Valley Wash. South of Carp, Nevada, the corridor segment would pass between two BLM-administered Wilderness Study Areas (WSAs), the Meadow Valley Range WSA and the Mormon Mountain WSA. This area would be somewhat restrictive; however, there is room currently available to accommodate the Aquatrain pipeline. This route segment would then join with the route segments identified in (1.).

From the convergence of State Highways 38 and 93 (or the alternative and State Highway 93), there would be one corridor route segment available that would extend to the Harry Allen proposed power plant, paralleling State Highway 93 south. This corridor segment would parallel an existing roadway right-of-way. To the west of new State Highway 93, the Fish and Wildlife Serice has filed an application with the Department of the Interior to expand the Desert National Wildlife Range to the state highway. However, no major environmental concerns should be encountered in paralleling State Highway 93 on the east side of the roadway (Maps 22 and 27; N13 to N15 via N16).

From the White Pine proposed power plant site 2 to the BLM planned corridor 2, there is one corridor route segment:

White Pine Power Plant EIS alternative route (Map 14; N7 to N4). The corridor route segment would be within an EIS assessed corridor route in the forthcoming White Pine Proposed Plant Project EIS (September-October 1983).

ELIMINATED CORRIDORS

Corridor	Reason(s) Not Recommended in Phase II
BLM, Ely District (Egan Resource Area) Planned Corridor 3	White Pine Proposed Corridor from the potential plant site 2 to the BLM Planned Corridor 2 (which parallels Nevada State Highway 93 southward) would better meet Aquatrain project needs through reduced pipeline construction mileage.
BLM-Maintained Road 2118 northwest of Caliente, Nevada	Two-track jeep trail northwest of Caliente, Nevada, is a much more viable north-south corridor route segment, and would also merge with Nevada State Highway 93. Less mileage.

BLM-Maintained Road 4266 south of Caliente, Nevada	Lincoln County Maintained Road 4230 following between the roadway and the Union Pacific railroad right-of-way through Meadow Valley Wash would provide a viable north-south corridor route segment. Also, the Meadow Valley is a broad valley.
Lincoln County Maintained Road 4217 south of the Delamar Mountains WSA	Lincoln County Maintained Road 4299 following between the roadway and the Union Pacific railroad right-of-way through Meadow Valley Wash would provide a more viable and direct north-south corridor route segment to the Harry Allen proposed power plant site; also, less mileage.
Old Nevada State Highway 93 south of the Delamar Mountains.	New Nevada State Highway 93 would head in a more direct route towards the Harry Allen Proposed power plant site.

3.1.15 Harry Allen Proposed Power Plant Site to Ivanpah Proposed Power Plant Site

RECOMMENDED CORRIDORS

Between the Harry Allen and the Ivanpah proposed power plant sites, there is one major corridor route available both north and south of the Las Vegas-Henderson area:

> Follow the Allen Warner Valley EIS corridor route to the IPP and Rocky Mountain Pipeline Project EIS corridor routes to north Las Vegas. South of Las Vegas, follow the IPP EIS corridor route to the Ivanpah proposed power plant site (Maps 27 and 28; N15 to N29 via N16, N17, and CA1).

This corridor route between the proposed power plants has had environmental assessments in the Allen-Warner Valley Energy System EIS, IPP Project EIS, and the Rocky Mountain Pipeline Project EIS. The corridor route segments both north and south of the Las Vegas-Henderson area would be available for the Aquatrain pipeline. Mitigation for the desert tortoise would be needed during pipeline construction.

There are six available corridor routes for crossing the Las Vegas-Henderson area. (Refer to Section 2.2.5, Las Vegas-Henderson Corridors, for identification of these corridors.)

ELIMINATED CORRIDORS

No other routes were considered in this area.

3.1.16 Ivanpah Proposed Power Plant Site to Potential Export Sites at Los Angeles and Long Beach, Oxnard, and Gaviota

RECOMMENDED CORRIDORS

There is one primary east-west corridor route from the Ivanpah Proposed Power Plant site south of Yermo, California:

> Follow designated energy and utility corridor BB to south of Yermo, California (Maps 28, 29, and 34; CA1 to CA9). This corridor route segment is being recommended for further consideration for EIS scoping because it would follow a designated corridor route in the CDCA Plan.

From Yermo, there would be three separate corridor segments leading to the export sites at Los Angeles and Long Beach, Oxnard, and Gaviota, California.

1. From Yermo, California, to the ports of Los Angeles and Long Beach, follow designated energy and utility corridor D to Victorville, California. From Victorville, parallel Interstate 15 through Cajon Pass to the intersection with Interstate 10. From the intersection of Interstate Highways 10 and 15, parallel the proposed route for the Sohio Pipeline Project to the port of Long Beach (Maps 33, 34, and 38; CA9 to CA6 via CA5 and CA10).

   This corridor would follow a designated energy and utility corridor, parallel Interstate 15 through Cajon Pass which is a designated energy corridor by the San Bernardino National Forest, and follow the Sohio Pipeline Project corridor route to Long Beach.

2. From Yermo, California, to the Port of Oxnard, follow designated energy and utility corridor "G" to west of Mojave, California. At this point, corridor G would intersect with designated energy and utility corridor"A. Corridor A outside the CDCA would parallel California State Highways 14 and 126 to the Port of Oxnard (Maps 33 and 34; CA9 to CA13 via CA5 and CA12).

   This corridor route would follow designated energy and utility corridors in the CDCA Plan, and parallel State roadway rights-of-way through broad valleys. California State Highway 126 crosses an orange grove for several miles. Aquatrain pipeline construction would have to take special care to minimize as much as possible impacts to orange grove operators in this area along the state highway.

3. From Yermo to Gaviota, California, follow designated energy and utility corridor G to west of Mojave, California. From this point and outside the CDCA, the corridor route would merge with the All-American Pipeline proposed route to Taft, California. From Taft, the corridor route would follow Getty Oil Company's proposed pipeline route to Gaviota, California (Maps 29, 30, 31, 32, 33, and 34; CA9 to CA8 via CA7 and CA8).

This corridor would follow a designated energy and utility corridor within the CDCA, and two proposed pipeline routes (All-American and Getty Oil Company) that are anticipated to have EIS assessments completed within the next 2 to 3 years.

ELIMINATED CORRIDORS

Corridor	Reason(s) Not Recommended in Phase II
CDCA designated energy and utility corridor D between Yermo, California, and the California-Nevada border	CDCA designated Corridor BB would provide a more direct corridor route between the proposed plant site and proposed coastal posts.
CDCA designated energy and utility corridor H	CDCA designated corridor D between Yermo and Victorville, California, would provide a more direct corridor route.

3.1.17 Ivanpah Proposed Power Plant Site to Blythe Proposed Plant Site

RECOMMENDED CORRIDORS

Between the Ivanpah and Blythe proposed power plant sites, there are no direct corridor routes. However, there is one corridor route which basically goes north to south, and would require a spur corridor segment to the Ivanpah proposed power plant site.

Follow the RMPP proposed action route south to the Nevada-California border. A spur corridor segment following the IPP corridor (south of Las Vegas, Nevada) to the Ivanpah Proposed Power Plant site would be necessary. At the Nevada-California border, the RMPP proposed action route would merge with the designated energy and utility corridor F as identified in the CDCA Plan. The Aquatrain pipeline would follow Corridor F and then parallel State Highway 95. State Highway 95 would merge with the designated energy and utility corridor J as identified in the CDCA Plan and on to the Blythe Proposed Power Plant site (Maps 28, 35, and 26; CA1 to CA15 via N19 to CA14).

The corridor route is being recommended for further consideration for EIS scoping because it is basically the only north-south route between the two proposed power plant sites. This corridor follows, for its entire length, EIS assessed corridors designated as energy and utility corridors and an existing road right-of-way. The RMPP proposed action route, the IPP spur corridor segment, and designated corridors F and J have basically been environmentally cleared with the RMPP, IPP, and CDCA EISs. The corridor segment paralleling State Highway 95 has not been environmentally cleared and would require a Plan Amendment to the CDCA Plan to link Corridors F and J.

ELIMINATED CORRIDORS

Corridor	Reason(s) Not Recommended in Phase II
CDCA designated energy and utility corridor E	RMPP proposed route would provide a more direct route than does Corridor E.
CDCA designated energy and utility corridor I	California State Highway 95 would provide a north-south direct route, rather than Corridor I which heads in a diagonal northwest to southeast direction.
CDCA contingent corridor Y	Travels in an east-west direction, rather than north-south required to meet project needs between the two proposed power plant sites.
CDCA designated energy and utility corridor G from Yermo, California, to California-Arizona border	Same as identified for Corridor Y.
CDCA designated energy and utility corridor H between Ludlow, California, and south of Essex, California.	Same as identified for Corridor Y.

3.1.18 Blythe Proposed Power Plant Site to Potential Export Sites at Los Angeles and Long Beach, Oxnard, and Gaviota

RECOMMENDED CORRIDORS

There is one primary east-west corridor route from the Blythe Proposed Power Plant across the California Desert and into the Los Angeles Basin.

From the Blythe proposed power plant site to the intersection of Interstate Highways 10 and 15, follow designated energy and utility corridor K which merges with the Sohio proposed pipeline route paralleling Interstate Highway 10 to the intersection with Interstate Highway 15 (Maps 34, 36, and 37; CA15 to CA10). This corridor route segment is being recommended for further consideration for EIS scoping, because it would follow a designated corridor route in the CDCA Plan and an assessed EIS route in the Sohio Pipeline Project EIS.

From the intersection of Interstate Highways 10 and 15, there would be three separate corridor segments leading to the potential export sites at Los Angeles and Long Beach, Oxnard, and Gaviota, California.

1. From the intersection of Interstate Highways 10 and 15, the corridor route would follow the Sohio route to the port of Long Beach. This corridor route segment is being recommended for further consideration

for EIS scoping, because it would follow an assessed EIS route through the urbanized Los Angeles Basin (Sohio Pipeline Project EIS, proposed action route).

2. From the intersection of Interstate Highways 10 and 15, follow Interstate Highway 15 north through Cajon Pass to California State Highway 395 north to designated energy and utility corridor C to designated energy and utility corridor B to designated energy and utility corridor A, and parallel California State Highways 14 and 126 to the Port of Oxnard (Maps 33 and 34; CA10 to CA13 via CA5, CA11, and CA12).

   This corridor route segment is being recommended for further consideration for EIS scoping, because it parallels or follows road rights-of-way and designated energy and utility corridor routes. The corridor route segment paralleling California State Highway 395 north would require a Plan Amendment to the CDCA Plan, since this segment is not a designated energy and utility corridor.

3. From the intersection of Interstate Highways 10 and 15, follow Interstate Highway 15 north through Cajon Pass to California State Highway 395 north to designated energy and utility corridor G to the proposed route for the All-American Pipeline Project leading to Taft, California, to the proposed route for Getty Oil Company's oil pipeline to Gaviota, California (Maps 30, 31, 32, 33, and 34; CA10 to CA8 via CA10, CA5, CA4, and CA7).

   This corridor route segment is being recommended for further consideration for EIS scoping, because it parallels or follows road rights-of-way, designated energy and utility corridors, and proposed routes of oil pipeline projects that are anticipated to have EISs completed within the next 2 to 3 years. The corridor segment paralleling California State Highway 395 north would require a Plan Amendment to the CDCA Plan, since this segment is not a designated energy and utility corridor.

ELIMINATED CORRIDORS

Corridor	Reason(s) Not Recommended in Phase II
CDCA contingent corridor S	This contingent corridor would require EIS assessment if followed, while the Sohio proposed pipeline route to Interstate 15 (through Cajon Pass) to Corridor C have had EISs completed.

3.1.19 Blythe Proposed Power Plant Site to Mexican Border

RECOMMENDED CORRIDORS

There is one corridor route that would head southward from the Blythe proposed power plant site to the USA/Mexico border (Maps 36 and 39; CA15 to CA16).

Follow designated energy and utility corridor J from south of Blythe, California, to the USA/Mexico border (west of yuma, Arizona). This corridor route is being recommended for further consideration for EIS scoping, because it is a designated 2-mile wide energy and utility corridor in the CDCA Plan and accompanying EIS that would meet project needs.

ELIMINATED CORRIDORS

No other routes were considered in this area.

3.2 SITE-SPECIFIC CORRIDOR ANALYSES (Price-San Rafael Coal and Saline Water Source to IPP)

RECOMMENDED CORRIDORS

Five corridor routes are located between the Price-San Rafael Coal and Saline Water Source and the IPP power plant. These five routes are alternatives to three basic routes: (1) proceeding north from the Price area and intercepting routes proposed for the Rocky Mountain Pipeline Project (RMPP); (2) proceeding in a direct-line fashion between the Price and the IPP plant; and (3) proceeding south from the Price area to Interstate Highway 70 and using other existing corridors to the IPP plant variations would occur within two of the corridor routes. The specific routes are described, as follows:

1. Soldier Creek Corridor

   a. Paralleling State Highway 10 to Price, then parallel U.S. Highway 6 through Price and Soldier Creek canyons to intercept the RMPP, proposed action corridor route to Indianola (Map 12; U3 to U8 via U2 and U7). This route provides an alternative corridor around the Manti Top area.

   b. Paralleling the RMPP, proposed action route segment to Nephi, Utah, then paralleling the RMPP, Central Nevada alternative route segment to the IPP plant (Maps 12 and 13; U8 to U11 via U10). The route is recommended because it follows a corridor previously environmentally assessed for an underground pipeline (RMPP).

No major land use planning concerns would conflict with this corridor route segment, since it would parallel proposed corridor routes. Refer to Table 3-2, Environmental Criteria, for a summary of environmental concerns.

2. Mountain Fuels Pipeline Corridor

   a. Paralleling State Highway 10 north and paralleling the existing Mountain Fuels natural gas pipeline westward across the Manti Top to Indianola (Map 12; U3 to U8 via U9). This route follows a potential below-ground utility corridor across the Manti-LaSal National Forest and the Manti Top. As well, the route was recommended by the Bureau of Reclamation for further study.

b. Paralleling the RMPP, proposed action route segment to Nephi, Utah, then paralleling the RMPP, Central Nevada alternative route segment to the IPP plant (Maps 12 and 13; U8 to U11 via U10). The route is recommended because it follows a corridor previously environmentally assessed for an underground pipeline (RMPP).

This route across the Manti Top could encounter possible conflicts with the Forest Management Plan because of corridor widths. See Table 3-2, Environmental Criteria, for a summary of environmental concerns.

3. Ephraim Corridor

Paralleling State Highway 29 west from the Hunter power plant across the Manti Top to Ephraim, then leaving any existing or proposed corridor and continuing west to Leamington Pass, and terminating at the IPP plant site (Maps 12 and 13; U3 to U11 via U12). This route was recommended by the Bureau of Reclamation for further study.

Although the corridor segment across the Manti Top would follow an existing highway, it is presently uncertain whether an underground corridor would be designated in the Manti-LaSal National Forest Management Plan. As well, it is presently uncertain whether the Fishlake National Forest Management Plan would designate a corridor across the San Pitch Mountains, while it is presently thought that such a corridor will be assigned to Leamington Pass. Refer to Table 3-2, Environmental Criteria, for a summary of environmental concerns.

4. Interstate Highway 70--Leamington Pass Corridor

a. Paralleling State Highway 10 from the Price area south through the Castle Valley to the junction with Interstate Highway 70, then westward and paralleling the Interstate Highway 70 corridor route, then west of Salina, Utah, and paralleling the Sigard-Gonder transmission line northward to Scipio (Maps 12, 13, 18, and 19; U3 to U13 via U6 and U5). This route was recommended for further study by the Bureau of Reclamation.

b. Creating a new corridor route segment from Scipio northward and then proceeding westward through Leamington Pass to the IPP plant (Map 13; U13 to U11 via U12). This route was chosen since the Fishlake National Forest will most likely designate a utility corridor through the pass.

No land use planning concerns are anticipated for the route, since the Fishlake National Forest Management Plan will most likely designate a corridor through Leamington Pass, and the other corridor route segments would parallel existing or proposed corridors. Refer to Table 3-2, Environmental Criteria, for a summary of environmental concerns.

5. Interstate Highway 70 Scipio Pass Corridor

a. Paralleling State Highway 10 from the Price area south through the Castle Valley to the junction with Interstate Highway 70, then westward and paralleling the Interstate Highway 70 corridor route,

then west of Salina, Utah, and paralleling the Sigard-Gonder transmission line northward to Scipio (Maps 12, 13, 18, and 19; U3 to U13 via U6 and U5). This route was recommended for further study by the Bureau of Reclamation.

b. Paralleling the Sigard-Gonder transmission line corridor west through Scipio Pass, then paralleling the RMPP, West Salt Lake alternative northward to the IPP plant (Map 13; U13 to U11, via U14). This route is being recommended because a majority of the corridor has been previously assessed as a pipeline corridor route (RMPP).

No land use planning constraints would conflict with this corridor route segment, since the route would follow existing corridors. Refer to Table 3-2, Environmental Criteria, for a summary of environmental concerns.

ELIMINATED CORRIDORS

Corridor	Reason(s) Not Recommended in Phase II
Paralleling an existing transmission line corridor route between the Castle Dale area and Gulluly, Utah, in Soldier Creek Canyon.	The route was eliminated because of extremely rugged terrain features and an alternate corridor exists through Price Canyon.
Paralleling an existing transmission line corridor route between the Huntington power plant and Mount Pleasant, Utah, across the Manti Top.	The route was eliminated from further consideration because of the corridor's extremely rugged terrain and the presence of slumping soils. Further, it presently appears that the Manti-LaSal National Forest Management Plan will not designate the route as an underground utility corridor.

3.3 COMPARATIVE ANALYSIS

Draft screening criteria was developed to evaluate the five site specific corridors identified in Section 3.2 for feasibility and suitability based on engineering design requirements, environmental factors (natural constraints), and land use, availability and accessibility. This criteria was developed using the engineering criteria supplied by the Bureau of Reclamation, and from identifying and describing applicable environmental factors related to corridor analysis and associated parameters. The criteria is based on experience from analyses of similar kinds of pipeline rights-of-way and terrain. The Bureau of Land Management **2800 Rights-Of-Way Manual Criteria** for delineating corridors and rights-of-way was also used in formulating the criteria.

The screening criteria factors were identified and described in a matrix (Tables 3-1 and 3-2) using the necessary evaluation parameters and an interdisciplinary approach.

Table 3-1

COMPARATIVE ANALYSIS OF SCREENED CORRIDORS--ENGINEERING CRITERIA

Corridor	Length	Bed Rock Hardness[1]	Slope Stability[2]	Topography[3]. Valleys, Upland Plains, and Fans	Topography[3]. Mountain Areas	Topography[3]. Very Steep and Extremely Steep Mountain Areas and Canyons
Soldier Creek Corridor	153 mi.	24 mi.	67 mi. (43%)	86 mi. (57%)	67 mi. (43%)	25 mi. (16%)
Mountain Fuels Pipeline Corridor	137 mi.	27 mi.	55 mi. (40%)	82 mi. (60%)	55 mi. (40%)	14 mi. (10%)
Ephraim Corridor	115 mi.	23 mi.	42 mi. (37%)	73 mi. (63%)	42 mi. (37%)	13 mi. (11%)
I-70--Leamington Pass Corridor	156 mi.	28 mi.	41 mi. (26%)	115 mi. (74%)	41 mi. (26%)	14 mi. (9%)
I-70--Scipio Pass Corridor	153 mi.	30 mi.	40 mi. (26%)	113 mi. (74%)	40 mi. (26%)	14 mi. (9%)

Table 3-1 (Concluded)

COMPARATIVE ANALYSIS--ENGINEERING CRITERIA

Corridor	Major River Crossings	Shallow Ground Water	Corridor Availability			
Soldier Creek Corridor	2	27 mi.	Price River Canyon Severely restricted canyon (topography) many existing uses	Soldier Creek Canyon Restricted canyon (topography); many existing uses	Salt Creek Canyon Portions restricted (topography); many existing uses	Leamington Ca[illegible] Partial restriction (topography); many existing uses
Mountain Fuels Pipeline Corridor	2	21 mi.	Questionable passage		IPP built, may close	IPP built, may become congested
Ephraim Corridor	3	31 mi.		Straight Canyon Severely restricted for 5 miles; existing road		
I-70--Leamington Pass Corridor	5	54 mi.	Salina Canyon Restrictive land-forms in some portions; possible use of existing ROW			
I-70--Scipio Pass Corridor	6	54 mi	Salina Canyon Restrictive land-forms on parts of 35 miles	Scipio Pass Restrictive landforms; many existing uses; passage appears likely		

Note: Although there are occasional small, localized areas where bearing strength (piping) would be poor, no general areas occur.

[1]Bedrock areas for this corridor study are areas that will require a combination of ripping and drill and blast.

[2]Slides and mass movement (slope stability). Most of the mountain topography identified contains areas subject to slides. Specific slide potential maps and interpretations were not available for this screening procedure. Refer to topography part of matrix for identification of mass movement hazard areas on a percentage basis.

[3]Topography - for this screening analysis the area was combined into two major physiographic units.

Valleys, upland plains and fans include areas with slopes ranging dominantly from 1 to 12 percent, including short steeper sloping areas bordering intermittent streams and toe slopes adjacent to mountain side slopes.

The mountain area unit includes mountain slides, canyons, crest slopes, narrow, elongated floodplains and associated drainage ways. Slopes are predominantly 9 to 30 percent including areas of 3 to 9 percent slope in floodplain areas and mountain tops and 30 to 70 percent mountain slides. The areas are subject to moderate to high erosion hazards and contain areas subject to mass movement (land slides ranging from 10 to 30 percent of the area).

The very steep and extremely mountain areas and canyons consist of the steepest topography within the mountain area with slopes dominantly 45 percent and greater. (This mileage figure represents the steepest sloping portion of the mountain physiographic area.)

Table 3-2

COMPARATIVE ANALYSIS--ENVIRONMENTAL CRITERIA

	SOILS/VEGETATION/AGRICULTURE					GEOLOGY		
Corridor	Soils[1]	Riparian (wetlands)	Forest Land[2]	Croplands[3]	Reclamation Potential[4]	Fault Zones[5]	Geothermal Areas[6]	Mineral Areas[7]
Soldier Creek Corridor	25 mi.	18 mi.	35 mi.	25 mi.	31 mi.	2 (8 mi.)	8 mi.	10 mi. (16 mi.)
Mountain Fuels Pipeline Corridor	14 mi.	19 mi.	39 mi.	26 mi.	20 mi.	4 (5 mi.)	10 mi.	26 mi. (37 mi.)
Ephraim Corridor	13 mi.	15 mi.	34 mi.	12 mi.	19 mi.	3 (0 mi.)	15 mi.	13 mi. (18 mi.)
I-70--Leamington Pass Corridor	14 mi.	17 mi.	32 mi.	13 mi.	20 mi.	3 (12 mi.)	15 mi.	40 mi. (56 mi.)
I-70--Scipio Pass Corridor	14 mi.	11 mi.	34 mi.	19 mi.	17 mi.	3 (13 mi.)	25 mi.	40 mi. (56 mi.)

Table 3-2 (Con't)

COMPARATIVE ANALYSIS--ENVIRONMENTAL CRITERIA

Corridor	WILDLIFE AND FISH			THREATENED OR ENDANGERED SPECIES				
	Seasonal Ranges	Sensitive Species	Unique Habitats	Terrestrial	Aquatic	Vegetative	FS RARE II Units	BLM WSAs
Soldier Creek Corridor	At least 39 mi. of big game winter range crossed	Unavailable at present	Unavailable at present	Possibility of some occurring on the route	Any route that crosses any waters in the Colorado River	Possibility of some occurring on the route	401, 402, 403, 405, 406, 428 and an unknown unit	None (Rockwell WSA 10 mi. N. of Lynndyl)
Mountain Fuels Pipeline Corridor	At least 23 mi. of big game winter range crossed	Unavailable at present	Unavailable at present	Same	Squawfish	Same	401, 403, 405, 406, 408, 428 and an unknown unit	None (Rockwell WSA 10 mi. N. of Lynndyl)
Ephraim Corridor	At least 6 mi. of big game winter range crossed	Unavailable at present	Unavailable at present	Same	Same	Same	412, 413, 414, 415, 417, and 429	None
I-70--Leamington Pass Corridor	At least 20 mi. of big game winter range crossed	Raptor areas	Aspen areas	Same	Same	Fishook Cactus Critical Habitats	Data not available at present	None
I-70--Scipio Pass Corridor	At least 20 mi. of big game winter range crossed	Raptor areas	Aspen areas	Same	Same	Fishook Cactus Critical Habitats	Data not available at present	None

Table 3-2 (Con't)

COMPARATIVE ANALYSIS--ENVIRONMENTAL CRITERIA

	RECREATION RESOURCES			CULTURAL RESOURCE CRITERIA			
Corridor	Nationwide Rivers Inventory (crossings)	State and/or County Recreation Areas	National Trails	Known National Register Sites	Potential Eligible Sites	Density of Sites	Cultural Sensitivity[3]
Soldier Creek Corridor	None	5	Dominquez-Escalante Trail	Nephi Mounds, north of Nephi	Mormon Road	Low in eastern half; high in western half	Very high
Mountain Fuels Pipeline Corridor	None	3	Same as above	Same as above	Same as above	Same as above	Very high
Ephraim Corridor	None	7	Same as above	Same as above	Same as above	Same as above	Moderate
I-70--Leamington Pass Corridor	None	7	Dominquez-Escalante Trail	Paraho Village, south of Scipio	Trough Hollow Arch. District Mormon Road	High	Very High
I-70--Scipio Pass Corridor	None	5	Dominquez-Escalante Trail	Same as above	Same as above	High	Very High

Table 3-2 (Concluded)

COMPARATIVE ANALYSIS--ENVIRONMENTAL CRITERIA

Corridor	VISUAL RESOURCES High Visual Sensitivity[9]			LAND USE PLANS AND CONSTRAINTS Fishlake N.F. Salina Pass Canyon	Fishlake N.F. Leamington Pass	Manti-LaSal N.
Soldier Creek Corridor	Price River Canyon about 8 mi. from north of Helper	Soldier Creek Canyon about 14 mi. west from Soldier Summit	Salt Creek Canyon about 6 mi. east of Nephi	Leamington Canyon about 5 mi. along Sevier River		No assurance the corridor could be used by the Aquatrain Project
Mountain Fuels Pipeline Corridor	Manti Top about 20 mi. between Scofield Reservoir and Indianola		Same as above	Same as above		The probable 50-75-foot corridor may be a constraint in this area
Ephraim Corridor	Manti Top about 17 mi. from Straight Creek Canyon to Ephraim	San Pitch Mountains about 10 mi. across top of range			FS suggested this corridor, but not yet designated	No corridor guaranteed, but may possibly be allowed
I-70--Leamington Pass Corridor	Salina Canyon about 35 mi. between I-70 and Salina			Will probably be designated as an underground corridor	Same as above	
I-70--Scipio Pass Corridor	Same	Scipio Pass about 7 mi. thru pass along I-15		Same as above		

[1]Very severe erosion hazard areas include areas susceptible to erosion when not adequately protected. Soils identified as extremely erroded by wind are sandy, loamy sand, and silty soils with low organic matter content on hummocky, and dunal topography.

Soils identified are extremely erodible by water, are very steep slooping soils containing high proportions of silt and very fine sand and a low organic matter content usually forming from fine grained sandstone, loamstone and silty clay shale.

[2]Forest lands includes all woodland areas.

[3]Total cropland average occurring within the corridor areas consists mainly of irrigated cropland and pasture. Approximately 30 percent of this total is prime agriculatural land. (Refer to map for locations of cropland areas.)

[4]Reclamation, Revegetation, and Restoration Potential - areas with very low potential are identified on a general basis. These include areas that are very sensitive and hard to reclaim and revegetate based on the following properties:

- o shallow to bedrock 10 inches deep and less
- o underlain by hard bedrock
- o soil reaction with pH value greater than 8.8, salinity more than 16 millinches in the upper 40 inches
- o occupying slopes steeper than 30 percent
- o sandy soils in areas with average annual precipitation less than 6-8 inches

[5]The first number refers to the number of fault zones crossed by the corridor; the numbers in parentheses refer to the number of miles the corridor either parallels or lies within a fault zone.

[6]Number of miles of pipeline located in areas that are potentially available for geothermal water (60° or greater).

[7]Number of miles of pipeline in areas of coal, with seams generally thicker than 4 feet. Numbers in parentheses show the numbers of miles of pipeline in areas of coal regardless of seam thickness.

[8]A combination of density of sites and the significance of the site.

[9]May require special/extensive mitigation based upon conceptual VRM Class/VQO objectives.

LIST OF PREPARERS FOR THE AQUATRAIN CORRIDOR STUDY REPORT

NAME	EDUCATION	RESPONSIBILITY
George E. Detsis, Environmental Protection Specialist	BS, Recreation Planning and Administration MS, Forest Resources	Task Force Leader. Overall coordination, quality control; Nevada and California corridors analysis, Phases I and II; recreation resources screening criteria
Janet J. Poorman, Editor	English, Chemistry	Coordination, review, and editing
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Alan E. Amen, Soil Scientist	BS, General Agronomy	Utah corridor analyses, Phases I and II; soils and reclamation screening criteria; graphics coordination
Raymond J. Boyd, Wildlife Biologist	BS, General Science BS, Game Management MS, Range Management	Wyoming and Colorado corridor analyses, Phases I and II; wildlife screening criteria; Phase II Comparative Analysis
Troy D. Bunch, Illustrator	AA, Art AAS, Audio-Visual Production	Cover, technical illustrations, graphics
Larcie D. Burnett, Archaeologist	BA, Anthropology MA, Anthropology	Chapter 1, General Overview, cultural resources screening criteria
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Steven M. Judish, Editorial Assistant		Text production, editing, graphics assistance

NAME	EDUCATION	RESPONSIBILITY
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Keith Francis, Cartographer	BA, Geology MS, Remote Sensing	Production of map volume
Gary R. Konwinski, Geologist	BS, Soil Science MS, Environmental Science Graduate Work in Geology and Water Resources	Minerals and geology screening criteria
Stanley V. Specht, Landscape Architect	BS, Landscape Architecture MLA, Landscape Architecture MUP, Urban Planning	Utah corridor analyses, Phases I and II; visual resources and wilderness screening criteria
Norma J. Sumpter, Editorial Assistant		Text production and coordination, editing, Introduction, List of Preparers

Appendix 1
Consultation and Coordination

The Bureau of Land Management (BLM), Division of Environmental Impact Statement Services, consulted with may individuals in order to collect data for this Corridor Study. Contacts included personnel from BLM and Forest Service (FS) offices in Wyoming, Colorado, Utah, Arizona, Nevada, and California. In addition to these federal agencies, the Utah Federal Highway Commission and Colorado Department of Highways were contacted, along with planning agency personnel in Colorado.

Collection of data involved two phases:

Phase I--A detailed data aquisition and literature search of all existing and formally designated corridor and potential right-of-way corridors within the proposed study area located in the states of Wyoming, Colorado, Utah, Nevada, Arizona, and California.

This effort required traveling to or otherwise contacting each affected state within the geographic study area to gather various environmental and land use planning documents and related data, to discuss problem areas and develop environmental criteria, and to obtain other pertinent information relative to the Corridor Study (e.g., land use plans, EISs). Refer to Table A1-1 for contacts where much of the information for the Corridor Study was obtained.

Phase II--The evaluation and screening of selected corridors, using detailed environmental screening analysis criteria to define corridors that may be compatible with planning the location of the Aquatrain Corridor.

TABLE A1-1
Sources for Corridor Study Information

State	Agency	Location	Persons Contacted
Wyoming	BLM	*Rock Springs District and *Salt Wells Resource Area	Bill McMahan, Environmental Coordinator
		Overland Resource Area of the Rawlins District	Barbara Hollway, Realty Specialist
Colorado	BLM	*Craig District	Dan Martin, Chief, P&EC
		*Little Snake Resource Area	Bob Haburchak, Area Manager Terry Hueth, Soil Scientist
		*White River Resource Area	"Rocky" Curnutt, Surface Reclamation Specialist
		*Grand Junction District	Larry Porter, Chief, P&EC
		*Grand Junction Resource Area	Lanny Berta, Area Manager Bob Kline, Environmental Specialist
		*Glenwood Springs Resource Area	Don Owens, Realty Specialist Leonard Coleman, Wildlife Biologist Rex Wells, Visual Resource Specialist Dave Atkins, Minerals Specialist
FS		Region 2, Denver	Jim Cochrane, Assistant Director of Lands Dave Davies, Utility Coordinator
		*White River National Forest	John Nepp, Lands Staff Officer Wendy Herrett, District Ranger
		*Grand Mesa National Forest	Joe Newton, Lands Staff Officer

TABLE A1-1 (Cont'd.)
Sources for Corridor Study Information

State	Agency	Location	Persons Contacted
Colorado (Cont'd.)	Colorado Department of Highways	Denver	Barbara Chocol, Branch Manager, Project Development Branch Fred Trentaz, Mileage Records Unit Manager
Utah	BLM	State Office	Thom Slater, Environmental Coordinator Steve Howard, Environmental Coordinator
		Moab District	Daryl Trotter, Chief, Planning and Environmental Coordinator
		*Price River Resource Area	Leon Berggren, Area Manager Mark Markiewez, Realty Specialist
		*San Rafael Resource Area	Sam Rowley, Area Manager Laurelle Hughes, Realty Specialist
		*Richfield District	Carl Thurgood, Project Manager, Environmental Projects Staff
		*House Range Resource Area	Tom Terry, Realty Specialist
		*Warm Springs Resource Area	Tom Terry, Realty Specialist
		*Sevier River Resource Area	Jeff Dougherty, Realty Specialist John Branch, Geologist
		Cedar City District	Dave Everette, Environmental Specialist
FS		Cache-Wasatch National Forest	Garth Heaton, Utah National Forest Liaison Officer
		*Uinta National Forest	Norm Corbridge, Forest Engineer Jerry Smith, Minerals and Energy Staff Gordon Williams, Landscape Architect

TABLE A1-1 (Cont'd.)
Sources for Corridor Study Information

State	Agency	Location	Persons Contacted
Utah (Cont'd.)	FS (Cont'd.)	*Manti-LaSal National Forest	Reed Christensen, Forest Supervisor Lee Foster, Forest Planner William Boley, Forest Engineer Brent Barney, Preconstruction Engineer
		*Dixie National Forest	Ralph Rawlinson, Recreation, Lands, and Minerals Staff Officer
		*Fishlake National Forest	Andy Godfrey, Forest Planner Dave Morin, Land Use Staff Officer
	Federal Highway Commission	Utah Division Office, Salt Lake City	Tom Allen, Planner
Arizona	BLM	*Arizona Strip District, St. George, Utah	Dennis Carter, Environmental Coordinator
Nevada	BLM	*Las Vegas District	Frank Maxwell, Chief, P&EC Kemp Conn, District Manager Rob Nauent, District Realty Specialist
		*Caliente Resource Area	Darwin Anderson, Acting Area Manager Richard Gundy, Geologist Eddie Guerrero, Wildlife Biologist Richard Orr, Range Conservationist
		*Stateline-Esmeralda Resource Area	Bill Childress, Acting Area Manager
		*Ely District	George Chopper, Chief, Division of Resources Sharon Holderness, Outdoor Recreation Planner
		*Tonopah Resource Area	Les Monroe, Area Manager